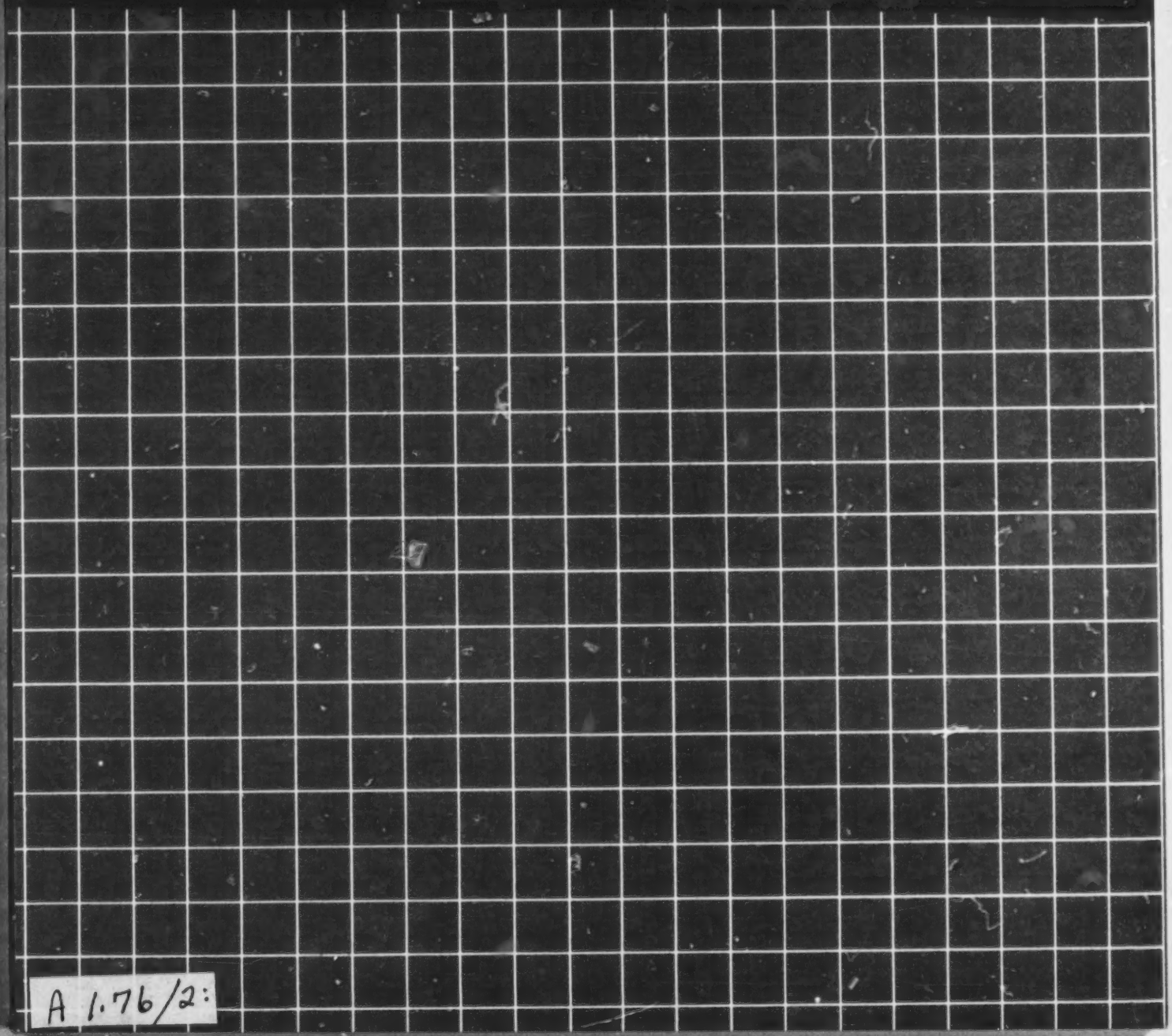
989

1989 Agricultural Chartbook

United States Department of Agriculture
Agriculture Handbook No. 684



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Economic Picture of U.S. Agriculture

Assistant Secretary of Agriculture for Economics summarizes key points in the 1989 agricultural outlook:

More acres will be planted and prices will remain strong. Therefore, cash receipts from marketing of crops and livestock will be close to the high level earned in 1988. On the other hand, government payments will be down and production expenses higher. Consequently, net cash farm income is likely to be lower in 1989.

There are some soft spots in the recovery. Returns to hog production have been weak since last fall. Cotton and rice exports are lagging and stocks are accumulating. Consequently, market receipts earned by cotton and rice producers in 1989 are expected to be down 15-25 percent.

Despite concern in these markets, the underlying improvements in agriculture appear strong enough to sustain the current financial recovery.

Farm debt has stabilized at manageable levels and land prices have risen 2 years in a row. Further increases in land prices are predicted. 1989 is expected to be a good year for farmers.

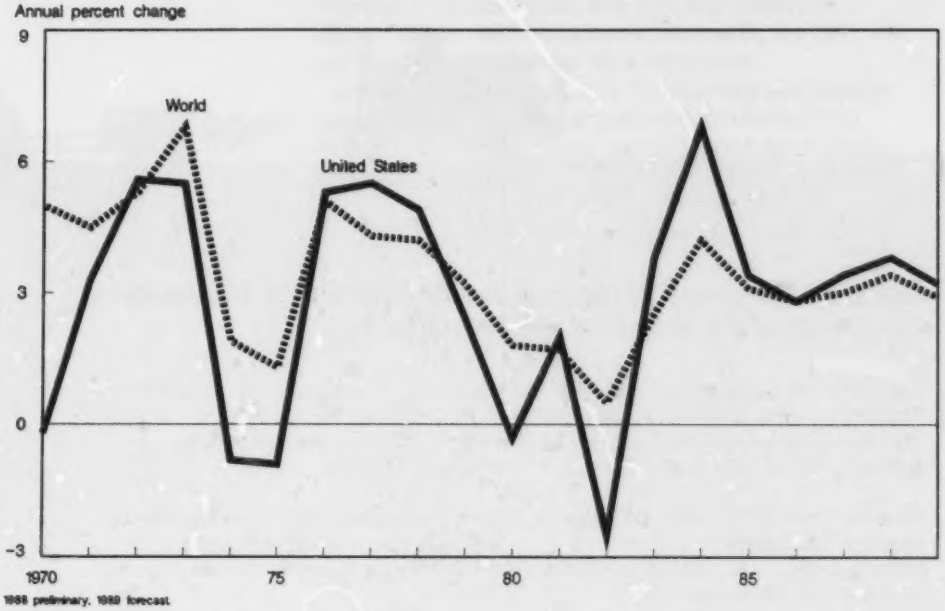
—From a statement by the Assistant Secretary of Agriculture for Economics, February 28, 1989

The following charts, based on the Assistant Secretary's statement, present an overview of the current health of American agriculture. The charts move from the national and international arenas to farm economic health measures and crop and livestock returns.

National and International Economies

Continued improvement in the foreign trade deficit and robust growth in spending on plants and equipment are likely to keep U.S. real GNP growing about 3 percent for 1989. Inflation ranging between 3.5-4.5 percent is likely, and interest rates are expected to rise in the second half of the year.

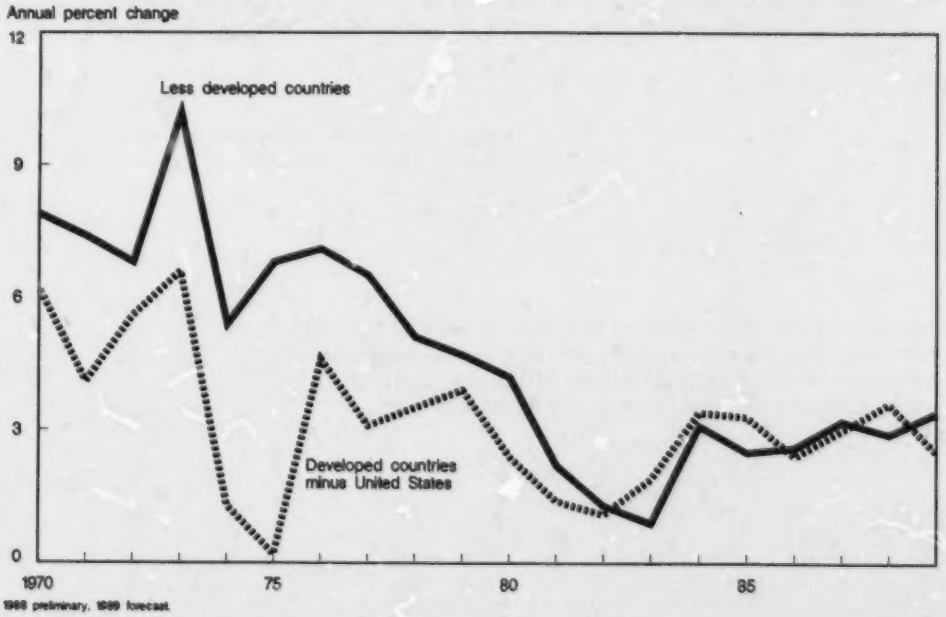
T1
World and U.S. economic growth



The U.S. trade deficit, though improving, is expected to remain large, resulting in an expected decline in the dollar's value in 1989. However, domestic concerns about inflation and a resulting rise in interest rates could well support the dollar over the first half of the year.

Foreign economic growth likely will remain strong in 1989, averaging around 3 percent. Among developed countries, Germany and Japan are expected to perform particularly well. Highly indebted less developed countries, especially in Latin America, could register little or no growth in 1989.

T2
Economic growth abroad

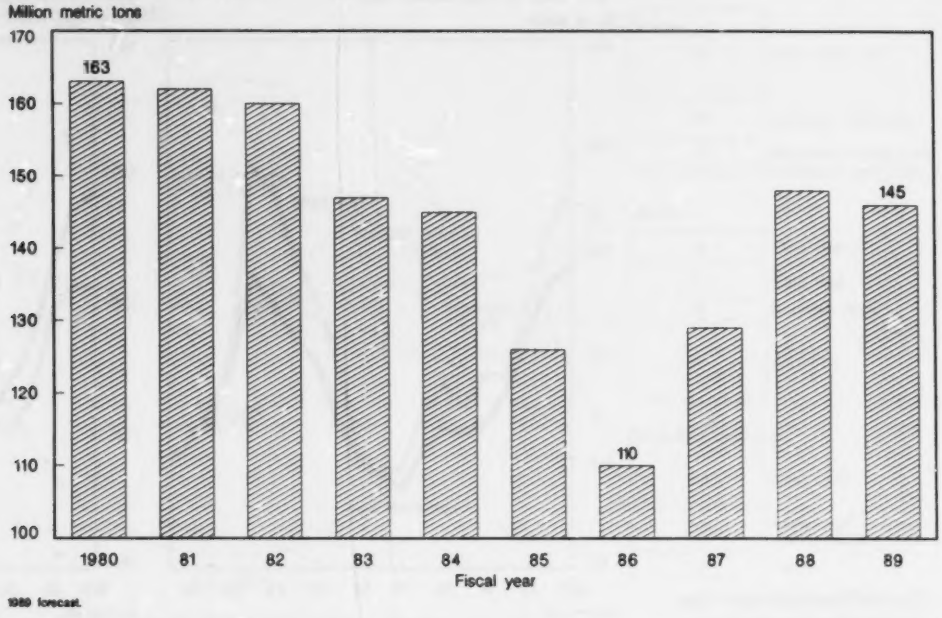


Agricultural Trade

U.S. agricultural export volume in FY 1989 may drop 2 percent to 145 million tons. Drought-reduced supplies of major commodities and rising prices are reducing the expected U.S. share of world trade. This year's decline follows a 2-year, 39-million-ton rebound in U.S. agricultural exports. Lower prices, favorable exchange rates, increased export assistance, and improved world economic growth contributed to the rebound.

T3

U.S. agricultural exports



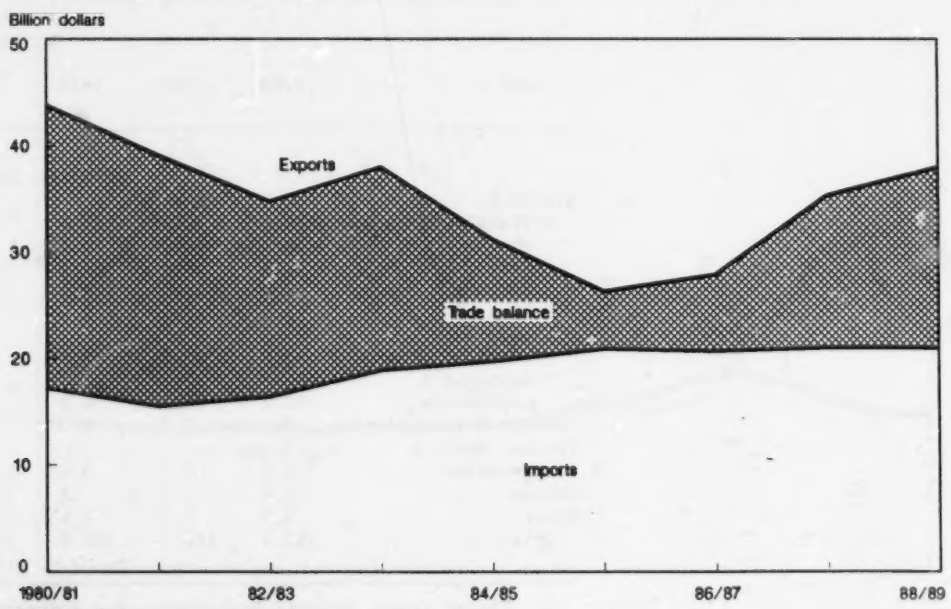
1989 forecast.

The drop in agricultural exports reflects drought-reduced crops, but high grain and soybean prices will help boost export value nearly $3 billion over 1988 to $38 billion.

U.S. agricultural imports in fiscal 1989 are expected to match 1988's record $21 billion. With import value steady, the agricultural trade balance could rise to $17 billion.

T4

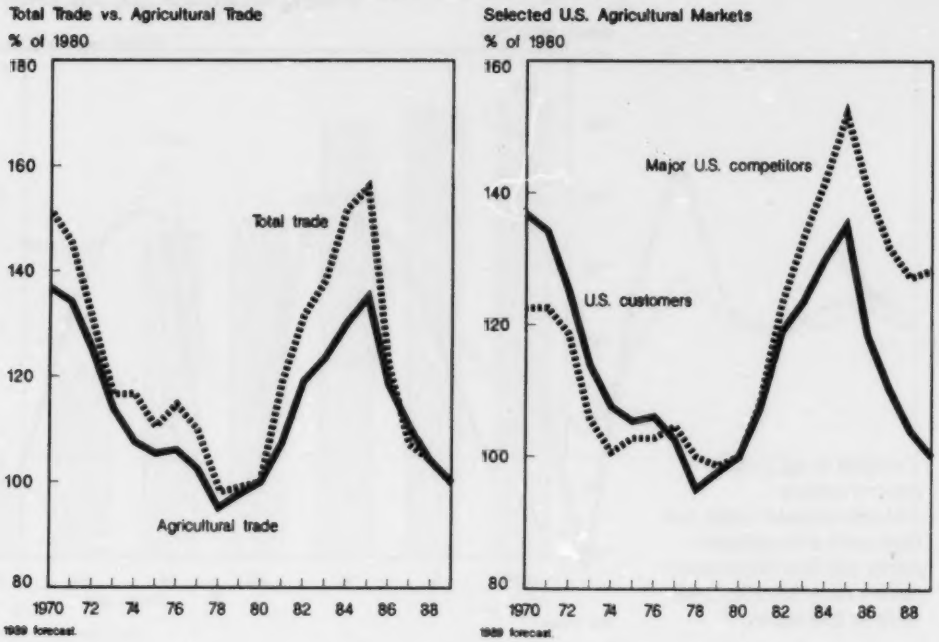
U.S. agricultural trade, fiscal year



1988/89 forecast.

T5

Dollar exchange rates



Favorable exchange rates and continued economic growth will help push high-value exports above 1988's record $16.4 billion.

U.S. Agricultural Exports: Volume by Commodity 1/

Item	1980	1985	1986	1987	1988	1989 F
			Million tons			
Grains & preparations	116.2	93.9	74.4	90.2	108.9	112.5
Wheat	36.1	28.5	25.5	28.2	40.5	39.0
Corn	61.4	46.4	31.1	39.3	44.1	51.0
Sorghum	8.2	7.5	4.1	5.1	6.1	7.0
Rice	3.0	2.0	2.4	2.5	2.2	2.4
Oilseeds & products	35.6	23.8	27.6	29.7	29.5	22.0
Soybeans & products	32.2	21.8	26.2	28.6	28.0	20.5
Animals & products	2.5	2.3	2.6	2.6	2.8	2.9
Fruits, nuts, & vegetables	3.3	3.3	3.4	3.8	4.2	4.3
Cotton	2.0	1.3	.5	1.3	1.4	1.2
Other	3.9	1.4	1.4	1.7	1.5	2.1
Total	163.5	126.0	109.9	129.3	148.3	145.0

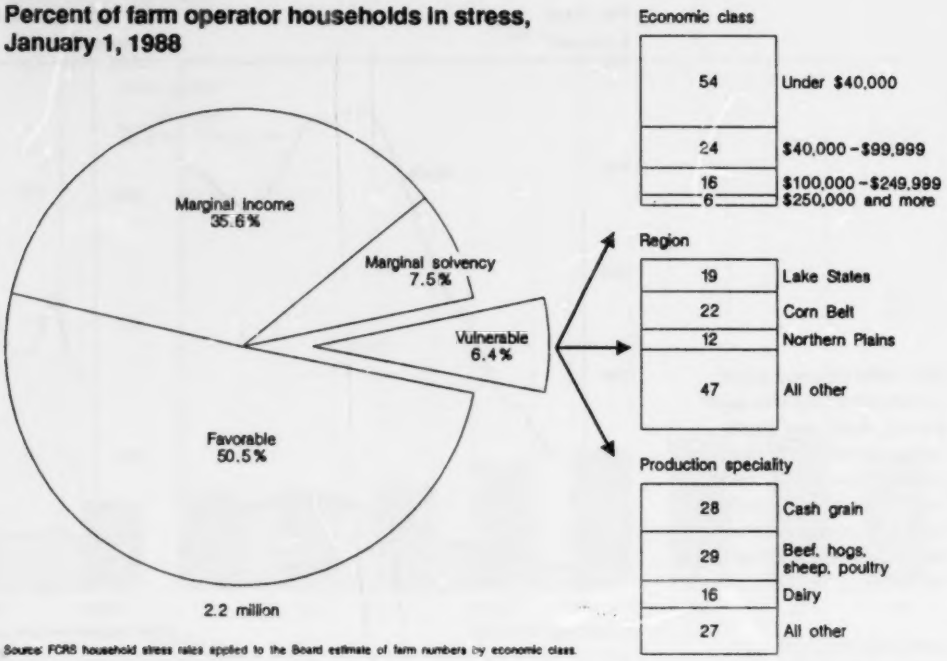
1/ Fiscal years, October-September. F = Forecast.

Farm Economy

The financial outlook for farmers continues to improve. Net cash farm income is expected to fall in 1989, but remain the fourth highest on record. Net farm income, which reflects inventory change, will rebound as crop yields return to more normal levels and area planted to major crops increases. Gross farm income may reach a record $182-$187 billion. Inventory value may rise $8-$10 billion following last year's $8-billion decline. Farmers' assets and equity may both increase 2-4 percent this year. But debt may also rise.

T6

Percent of farm operator households in stress, January 1, 1988



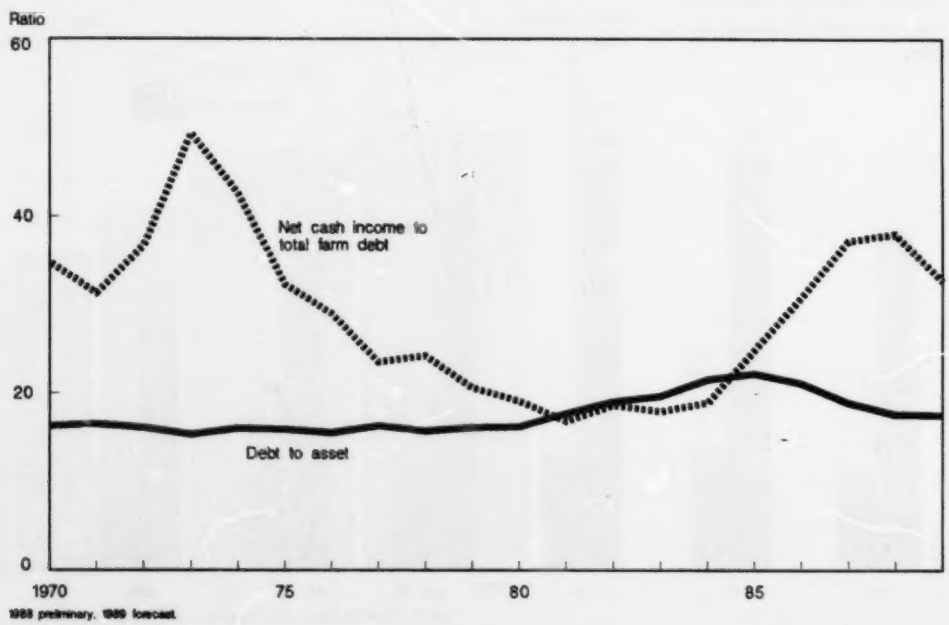
Source: FCRS household stress rates applied to the Board estimate of farm numbers by economic class.

The share of farms in vulnerable financial condition fell 30 percent from the previous year, to 6.4 percent on January 1, 1988, down from over 9 percent the previous year.

The debt-to-asset ratio likely will remain fairly stable in 1989 after declining for the third straight year in 1988. The net cash income-to-debt ratio is expected to drop sharply, reflecting a decline in net cash income and a slight increase in debt.

T7

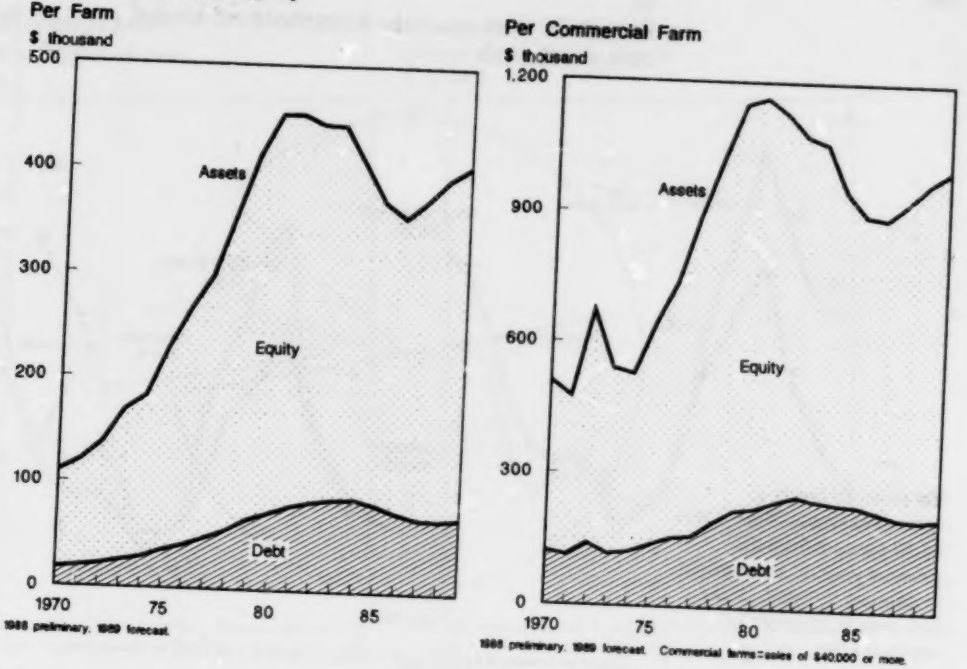
Selected financial ratios



1988 preliminary, 1989 forecast.

T8

Assets, debt, and equity

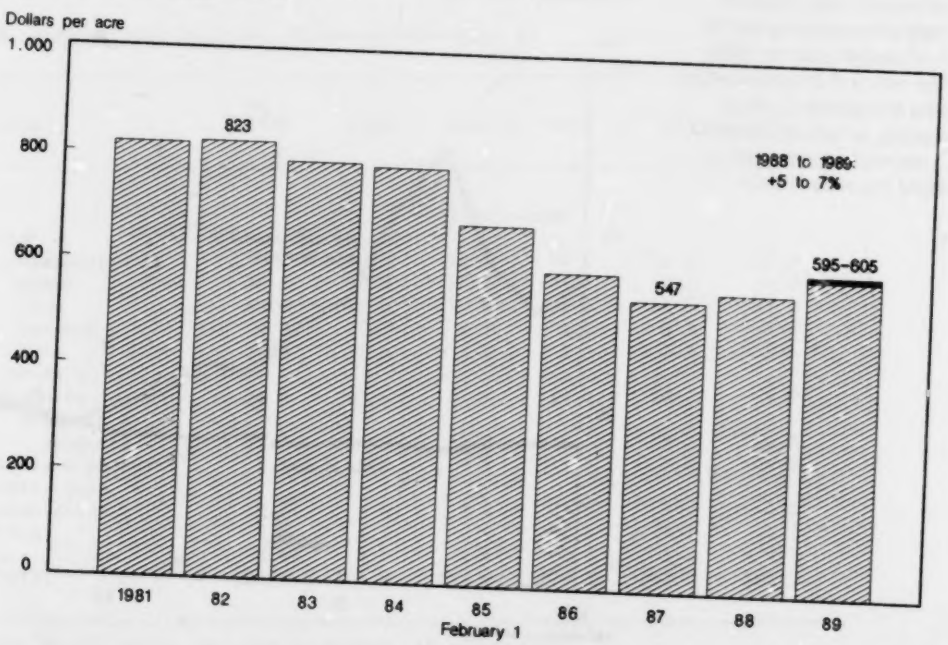


The 1989 balance sheet continues to improve with assets, debt, and equity values expected to rise 2-4 percent from 1988. Farm assets, debt, and equity per farm and per commercial farm are also expected to increase.

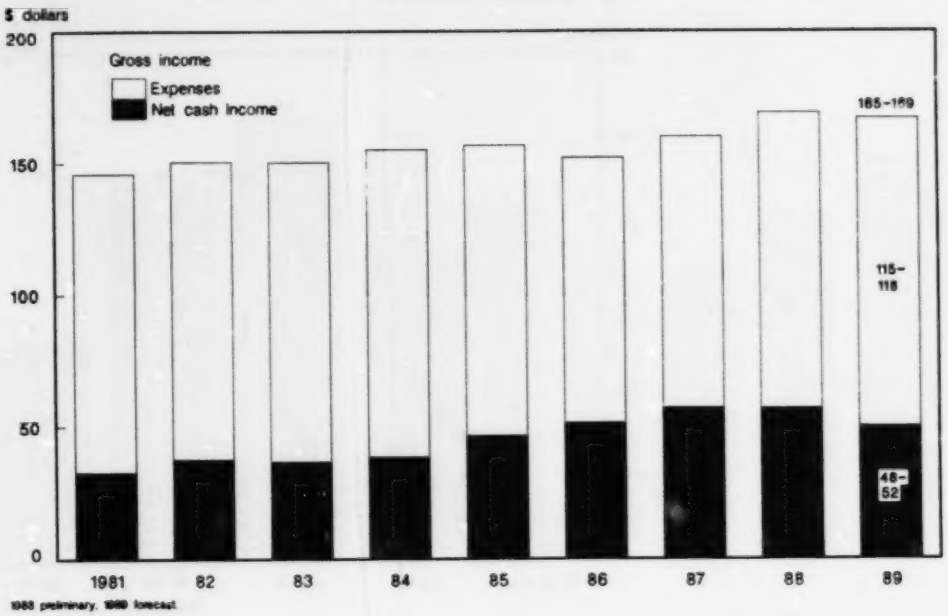
Land values could also increase 2-4 percent, following an expected 5- to 7-percent gain from February 1988 to February 1989 and a 3-percent gain the previous year.

T9

U.S. farm real estate values



T10
Cash farm income

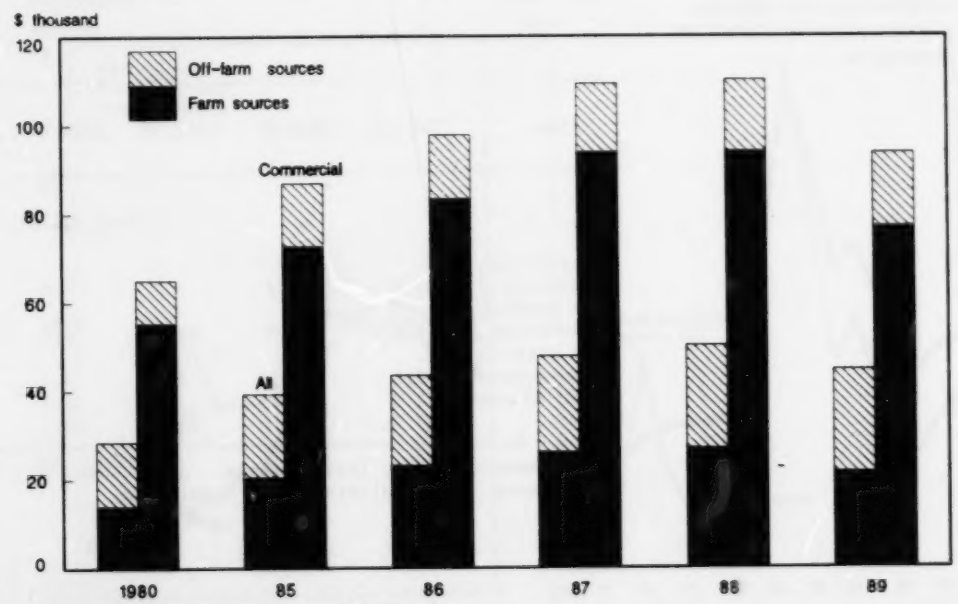


1988 preliminary, 1989 forecast

Net cash income per farm may fall about a tenth from last year's record-tying level, reflecting low inventories, rising expenses, and smaller government payments, but net farm income may rise sharply because of crop inventories.

Income from off-farm sources will account for over 50 percent of average per farm income. But off-farm sources will be less than 20 percent of income for commercial farms ($40,000 or more of annual sales).

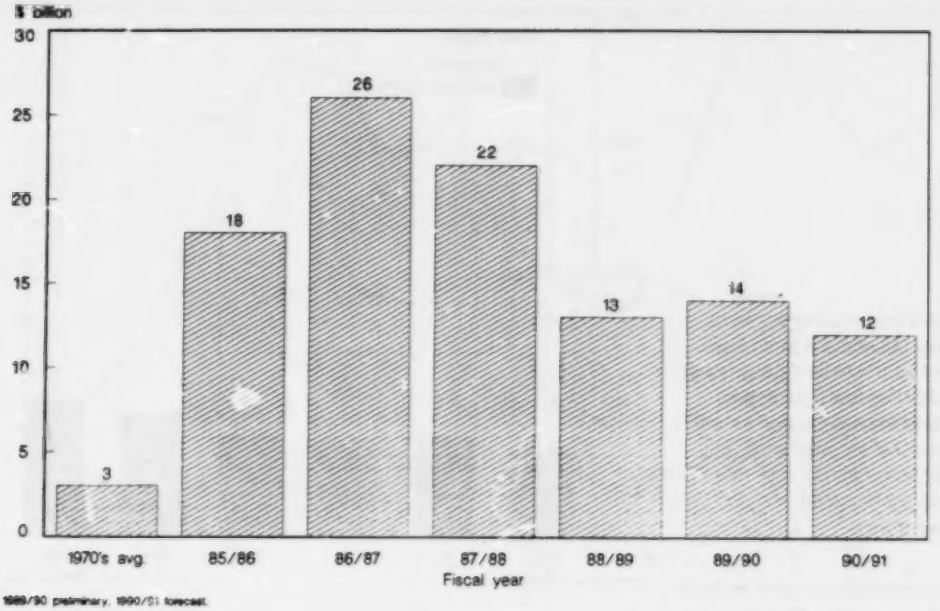
T11
Income per farm



1988 preliminary, 1989 forecast. Commercial farms = sales of $40,000 or more.

T12

Farm program outlays



1989/90 preliminary, 1990/91 forecast.

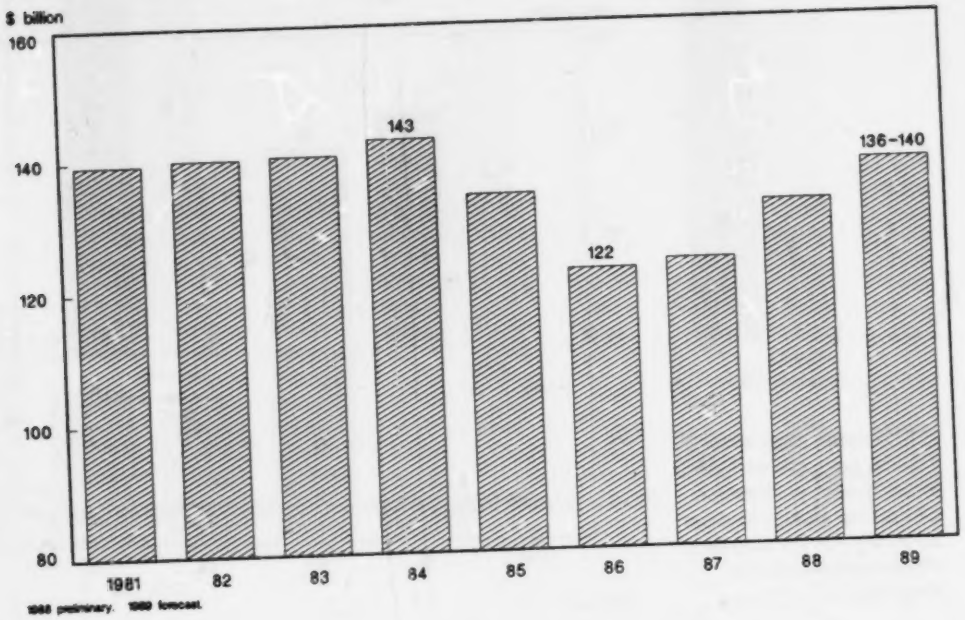
Net outlays for U.S. farm programs in fiscal 1991 are expected to decline from the fiscal 1990 level which will include large crop disaster payments and livestock feed assistance.

Net Outlays for U.S. Farm Programs

Item	1985/86	1986/87	1987/88	1988/89	1989/90 P	1990/91 F
			Billion dollars			
Direct cash outlays	7.8	6.2	5.2	4.0	5.9	7.0
Net lending activity 1/	6.0	11.9	12.2	4.6	-.2	1.0
CCC dairy purchases	2.1	2.3	1.2	1.2	.6	.7
All others	1.8	5.4	3.8	2.7	7.5 2/	2.9
Total	17.7	25.8	22.4	12.5	13.8	11.6

1/ Commodity loans less payments. 2/ Includes $4.5 billion in disaster assistance. P = Preliminary. F = Forecast.

T13
Farm production costs

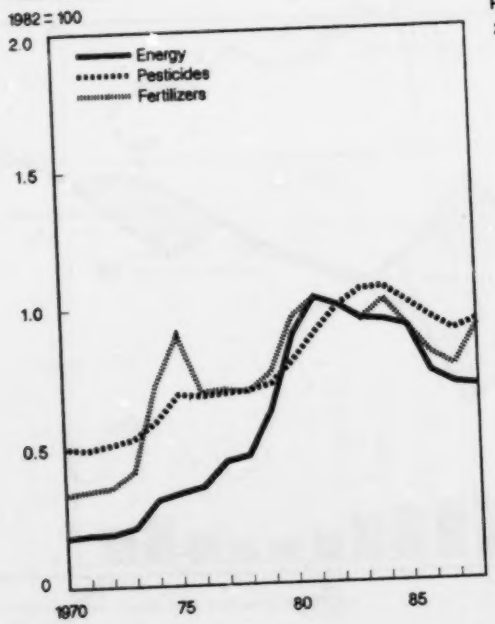


1988 preliminary. 1989 forecast.

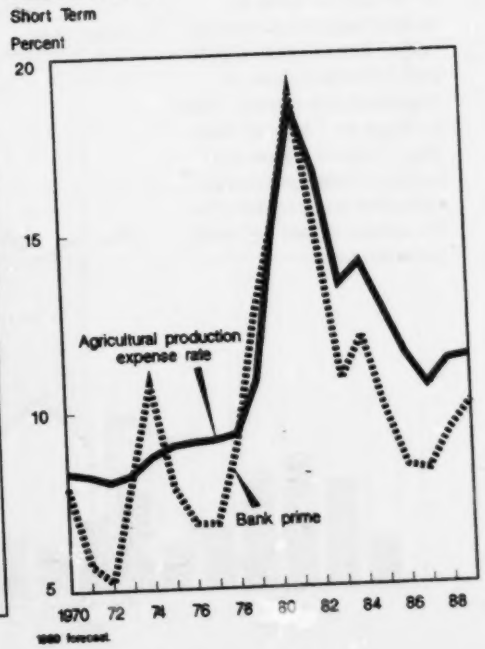
Cash expenses rose 8 percent in 1988 and could rise another 4-6 percent in 1989, but are expected to be spread more uniformly among cost items than last year.

Fertilizer expenses rose 10 percent, reflecting higher prices and larger quantity used. Interest rates are expected to be higher in the first half of 1989 than in the second half.

T14
Farm input prices



Interest rates

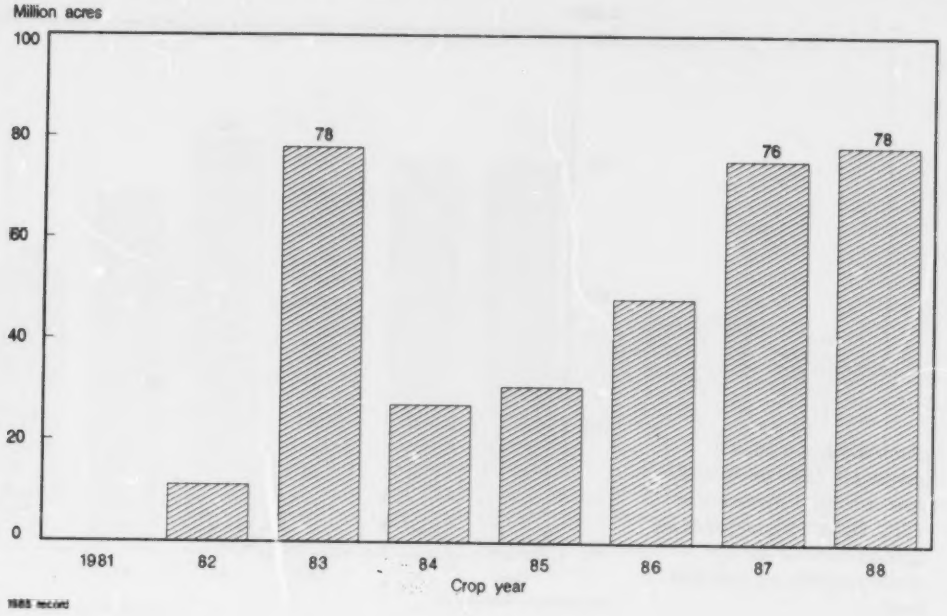


1988 forecast.

Crop Production

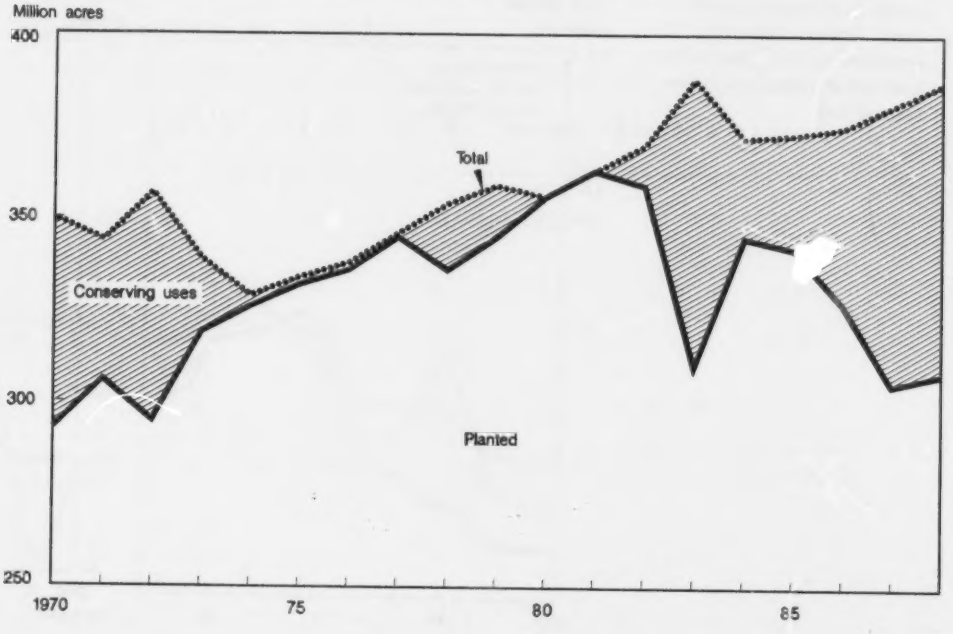
Global crop output will likely fall 4 percent in 1988/89 as smaller oilseed crops offset greater world production of cotton and rice. The 4-percent decline forecast for 1988/89 world grain production reflects drought-reduced crops in North America and Argentina and a smaller Soviet harvest. The severe 1988 drought sharply cut domestic crop yields, interrupted river traffic, dried up reservoirs, and promoted forest fires. Soil moisture deficits continued into the winter, causing concern for 1989 crops.

T15
Acreage idled under Federal programs



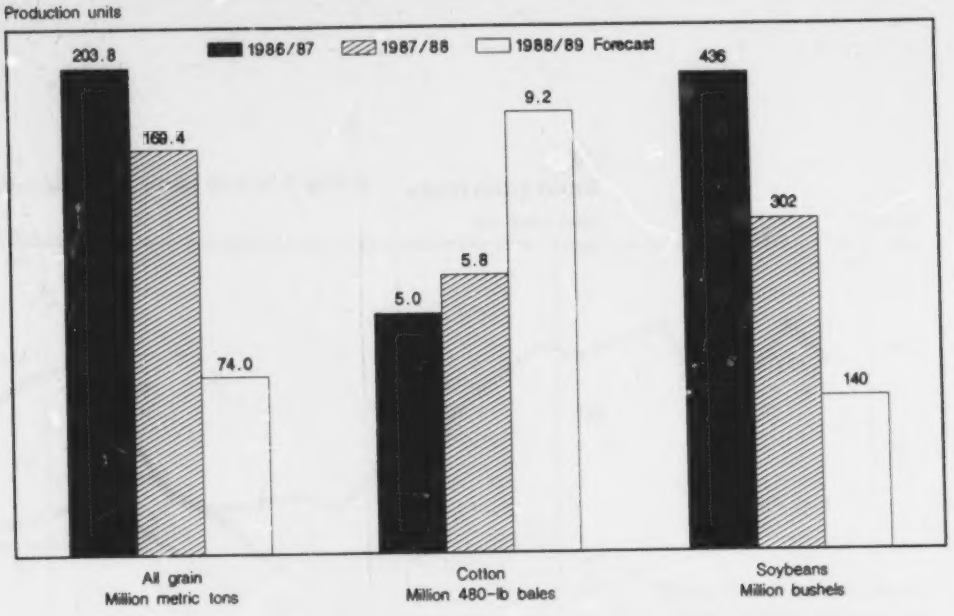
U.S. acreage idled under Federal programs in 1988 totaled just over 78 million. Of the total idled, 24 million acres were in the long-term Conservation Reserve Program.

T16
U.S. crop acreage planted and placed in conserving uses



U.S. crop production is likely to rebound in 1989, as farmers may plant over 20 million more acres in grain and 2-4 million more in soybeans this season. Idled acreage for 1989 will likely drop to 50-55 million due largely to smaller acreage reduction requirements for the annual wheat and feed grain programs.

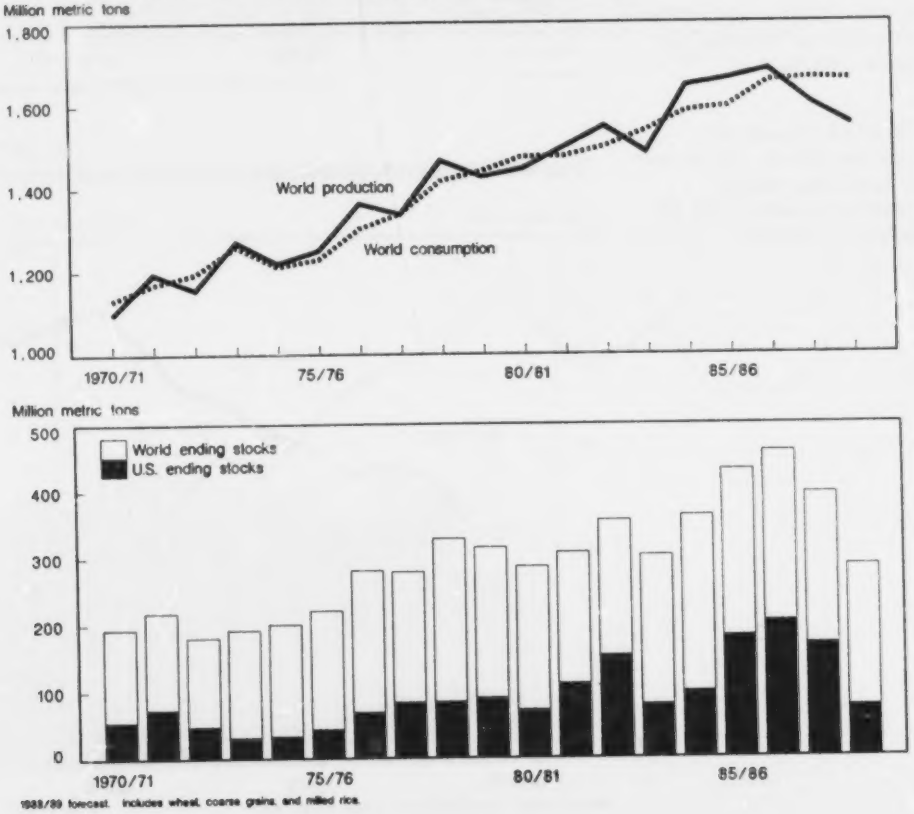
T17
End-of-season inventories, 1986/87, 1987/88, and 1988/89



Inventories of grains and oilseeds fell sharply during 1988/89. U.S. grain inventories at the end of the marketing season may be only about 74 million metric tons, down from 204 million just 2 years earlier.

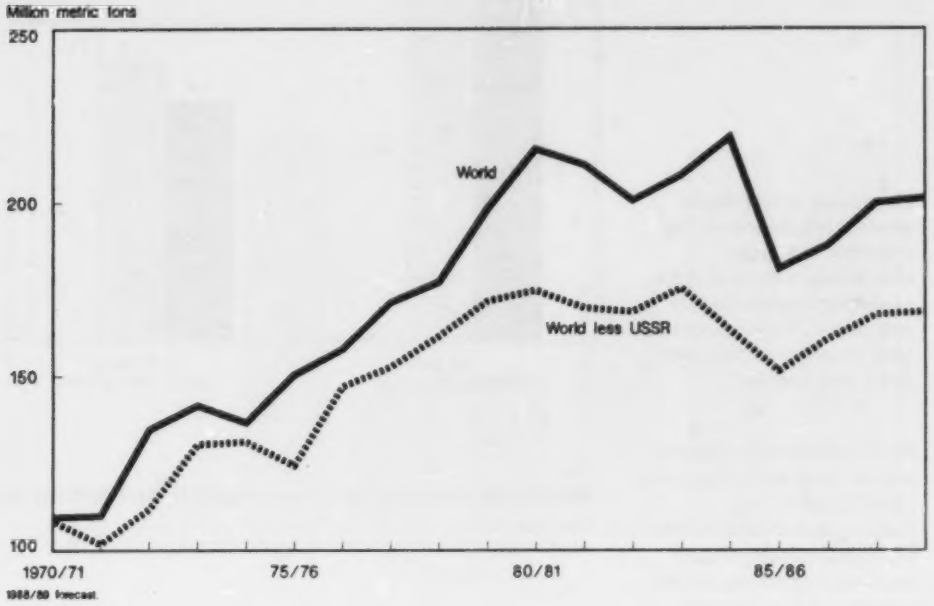
While world grain production is forecast to fall 4 percent in 1988/89, world crop consumption will show little change, exceeding output and reducing ending stocks, especially for grains and oilseeds. Global grain and soybean stocks will fall 30 percent, and U.S. stocks by over half.

T18
World grain production, consumption, and ending stocks



1988/89 forecast. Includes wheat, coarse grains, and milled rice.

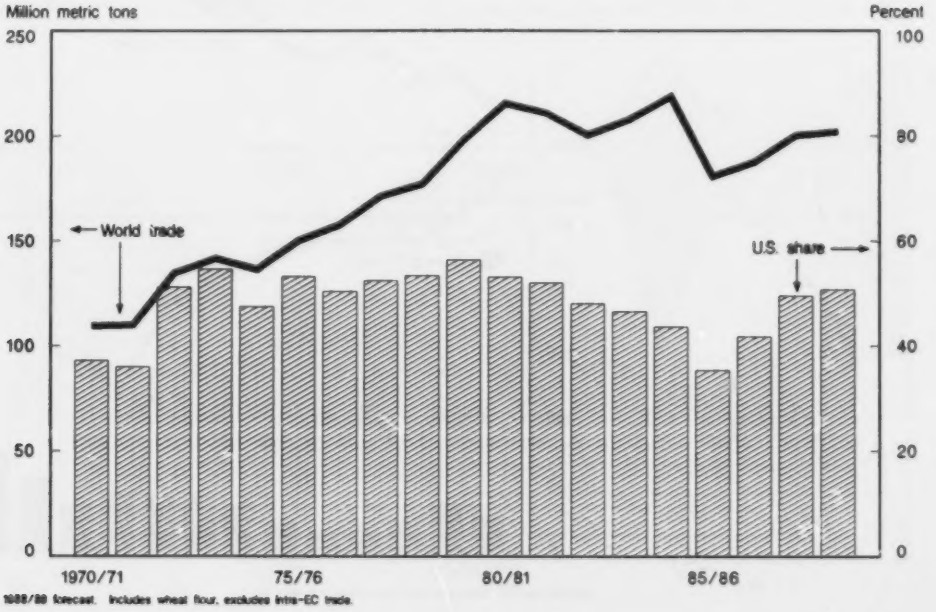
T19
World grain trade



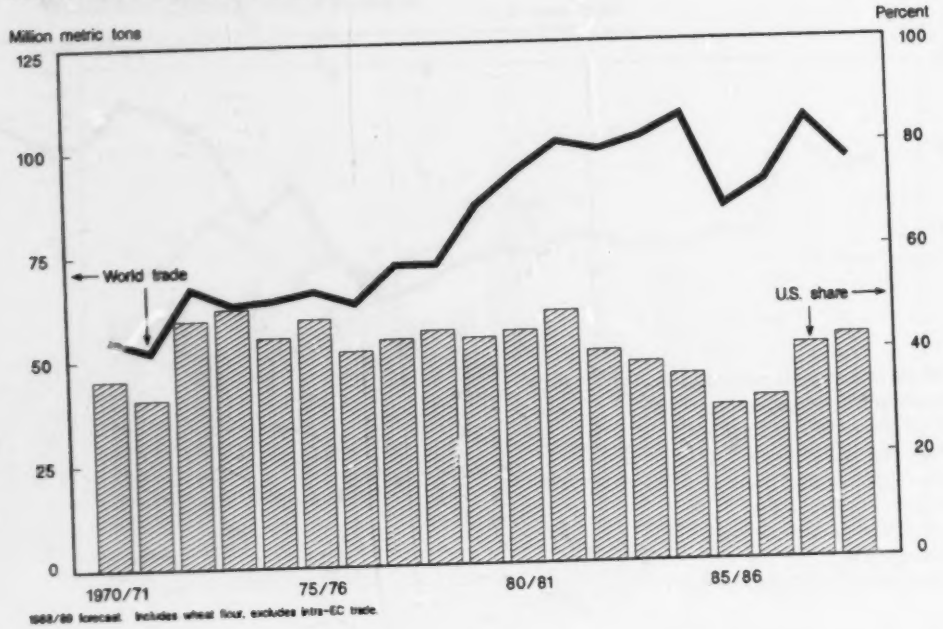
World grain trade is forecast up 1 percent from last year and 12 percent above 1985/86. Higher Soviet corn imports account for much of the gain, and the Soviet Union and China account for 60 percent of the trade rise since 1985/86.

The United States will capture more than 50 percent of world grain trade in 1988/89, compared with 35 percent in 1985/86.

T20
Total world grain trade and U.S. share



T21
World wheat trade and U.S. share

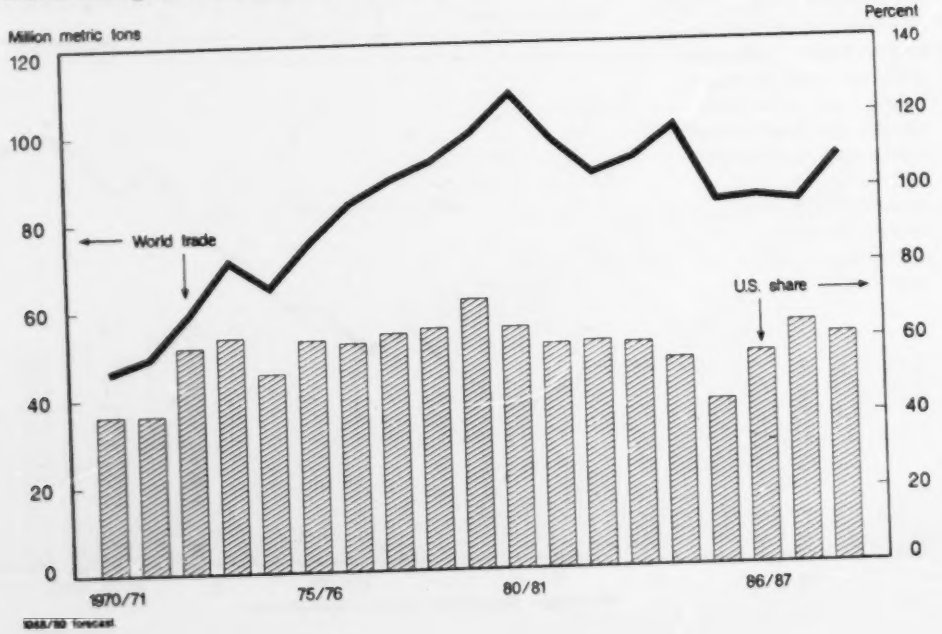


1988/89 forecast. Includes wheat flour, excludes intra-EC trade.

World wheat trade is forecast down 9 percent, largely because of reduced Soviet imports, while the U.S. share may rise slightly to 43 percent.

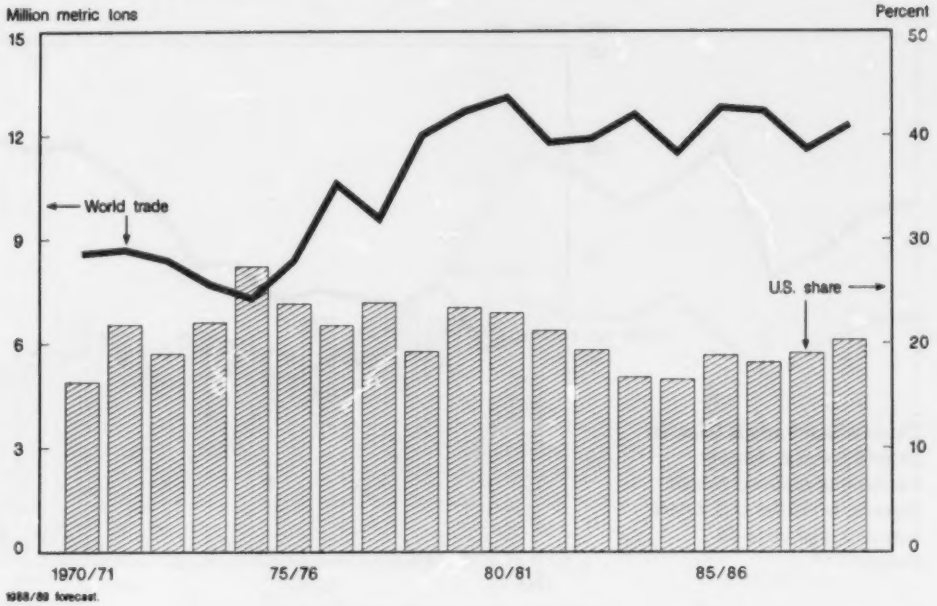
U.S. share of world feed grain trade is forecast to fall to 62 percent from 64 percent last year, with U.S. 1988/89 feed grain production falling 31 percent.

T22
World feed grain trade and U.S. share



1988/89 forecast.

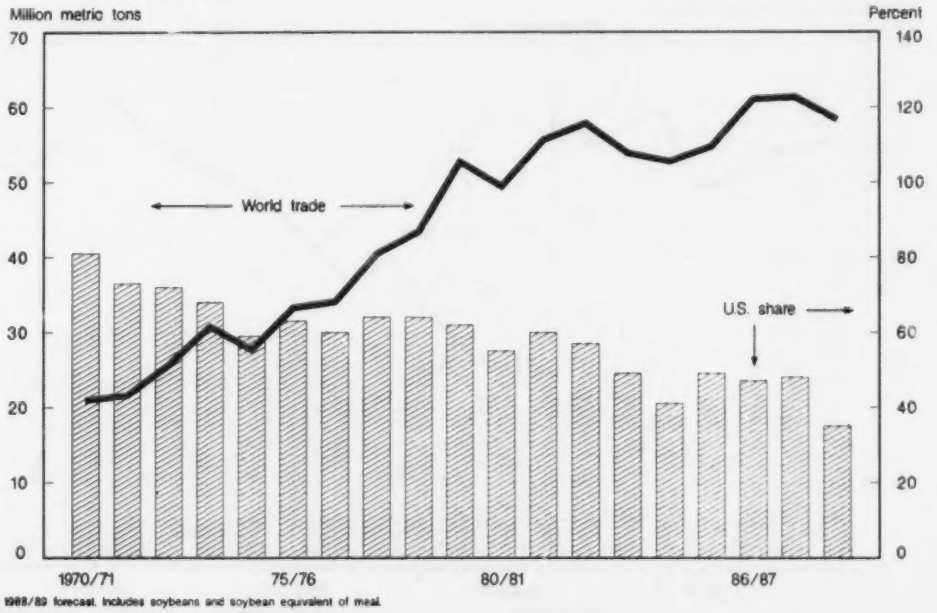
T23
World rice trade and U.S. share



1988/89 forecast.

World rice trade is projected to show little change from 1988/89, but the U.S. share may rise. Global rice production is up 5 percent, as production rebounded sharply in several Asian countries with drought-reduced 1987 crops.

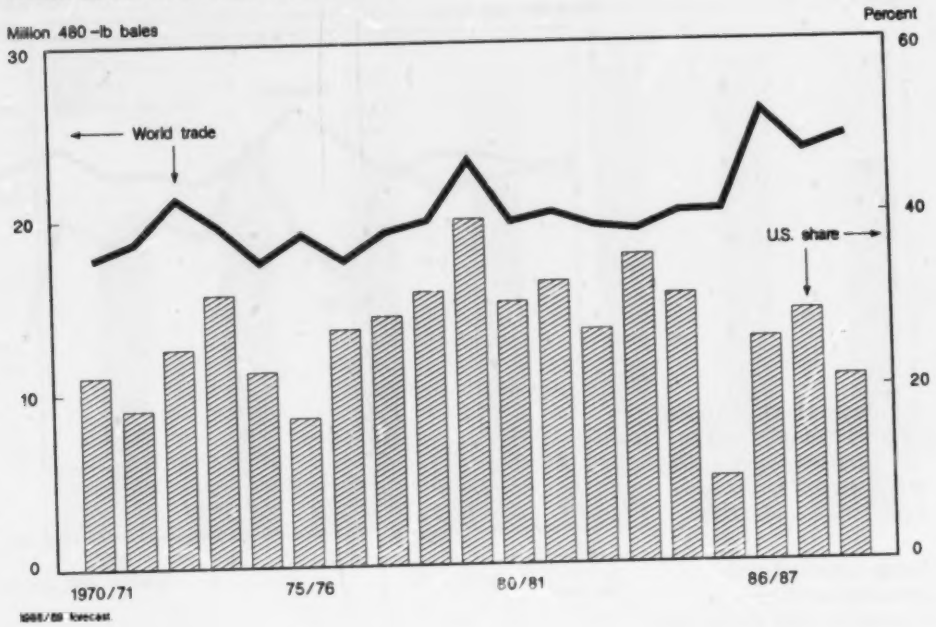
T24
World soybean trade and U.S. share



1988/89 forecast. Includes soybeans and soybean equivalent of meal.

Strong competition from South America has reduced the U.S. share of soybean and soybean meal trade from 65 percent in 1979/80 to 37 percent today. Increasing world prices for soybeans versus grain crops have encouraged South American producers to shift land to soybeans, while U.S. acreage has declined because of heavy participation in crop programs.

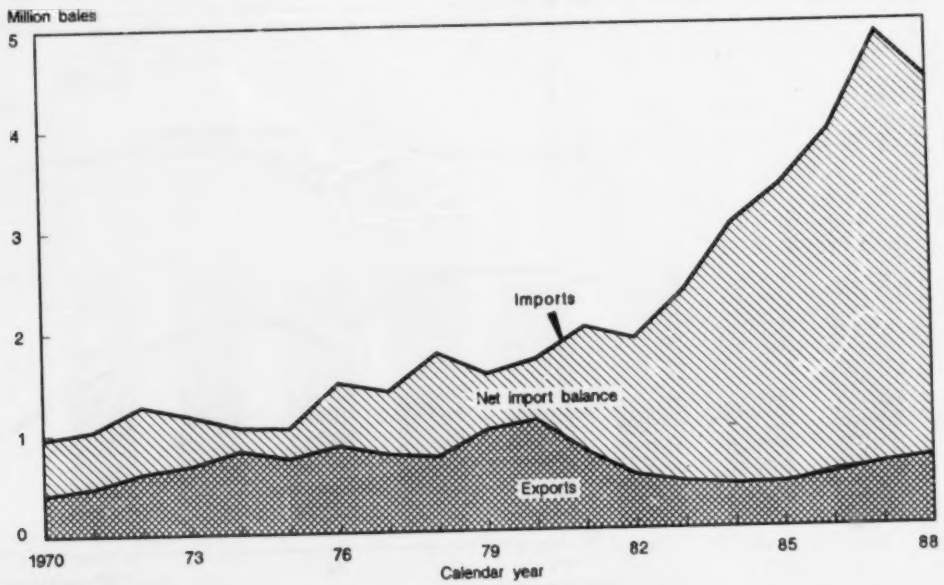
T25
World cotton trade and U.S. share



1988/89 forecast.

Relatively high world cotton consumption is forecast to boost world trade 3 percent to 24.3 million bales in 1988/89. The U.S. trade share, at 21 percent (down from 28 percent last season) reflects keen foreign competition and relatively high U.S. export prices.

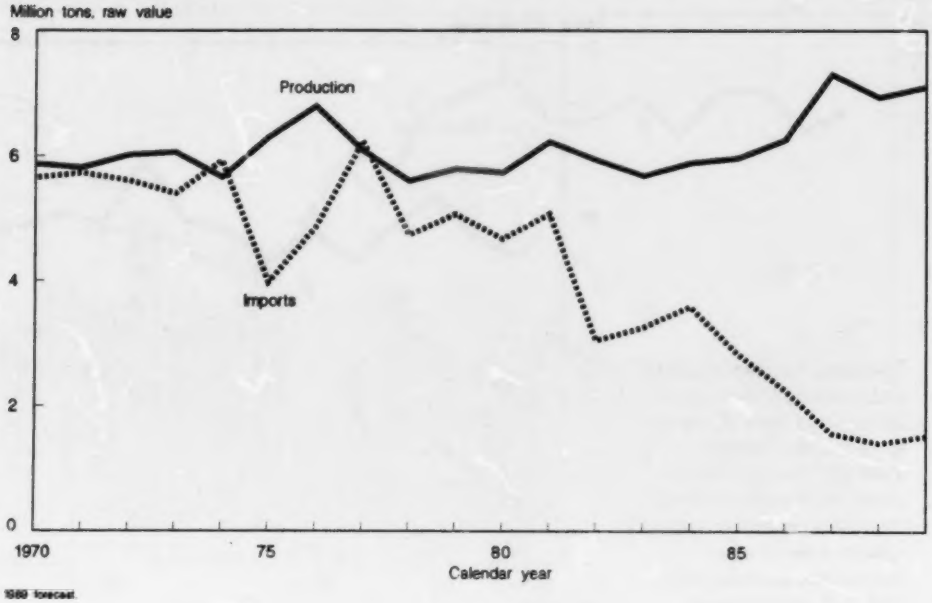
T26
U.S. cotton textile trade



1988 forecast.

U.S. cotton textile trade balance improved last year. Imports equaled an estimated 4.4 million 480-pound bales, 10 percent below the 1987 record. Exports of nearly 0.7 million bales left a net import balance of 3.7 million bales, 12 percent below 1987.

T27
U.S. sugar production and imports

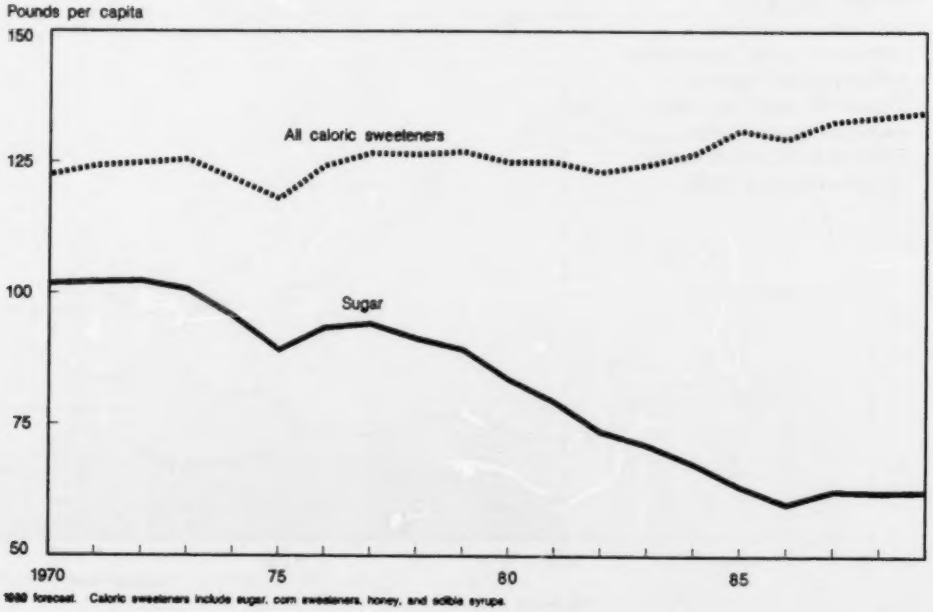


1989 forecast.

U.S. sugar production fell to 7.072 million short tons in 1988, and is forecast to rise to 7.16 million short tons in 1989.

Sugar consumption is expected to increase modestly in 1989 for the third straight year, following 10 years of decline as corn sweeteners replaced sugar in soft drinks.

T28
U.S. caloric sweetener consumption

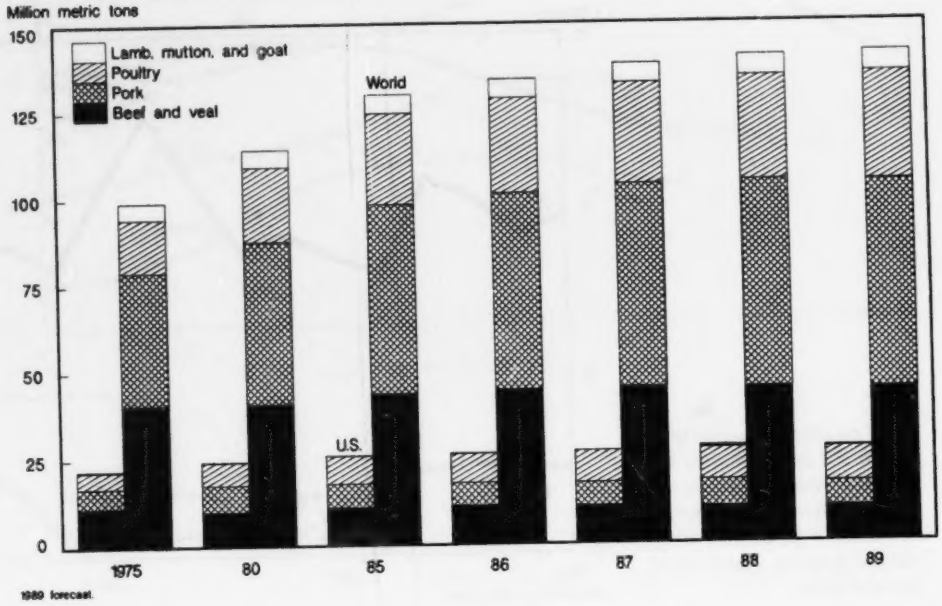


1989 forecast. Caloric sweeteners include sugar, corn sweeteners, honey, and edible syrups.

Meat and Livestock Production

U.S. meat production may increase slightly in 1989 following a 3-percent gain in 1988. Per capita meat consumption may also rise slightly. The U.S. cattle inventory stabilized in 1988. Cattle and turkey prices may average a little higher in 1989 while broiler and hog prices stay near 1988 levels.

T29
U.S. and world meat production

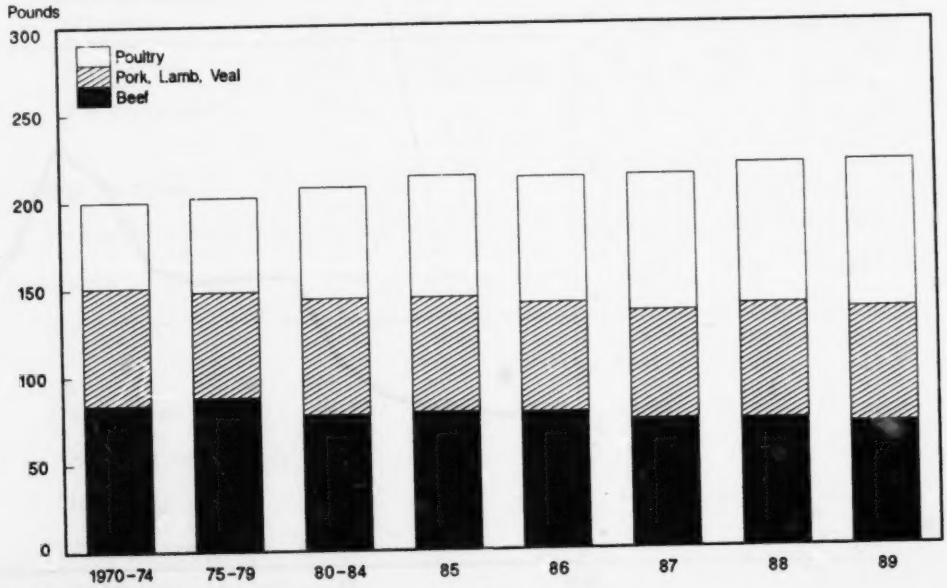


1989 forecast.

World meat production is rising in 1989, with gains in pork and poultry likely. Beef production was down slightly in 1988, but may hold steady in 1989.

U.S. per capita meat consumption rose almost 6 pounds in 1988 to a record 219 pounds. Poultry consumption climbed about 2.5 pounds and pork consumption nearly 4 pounds.

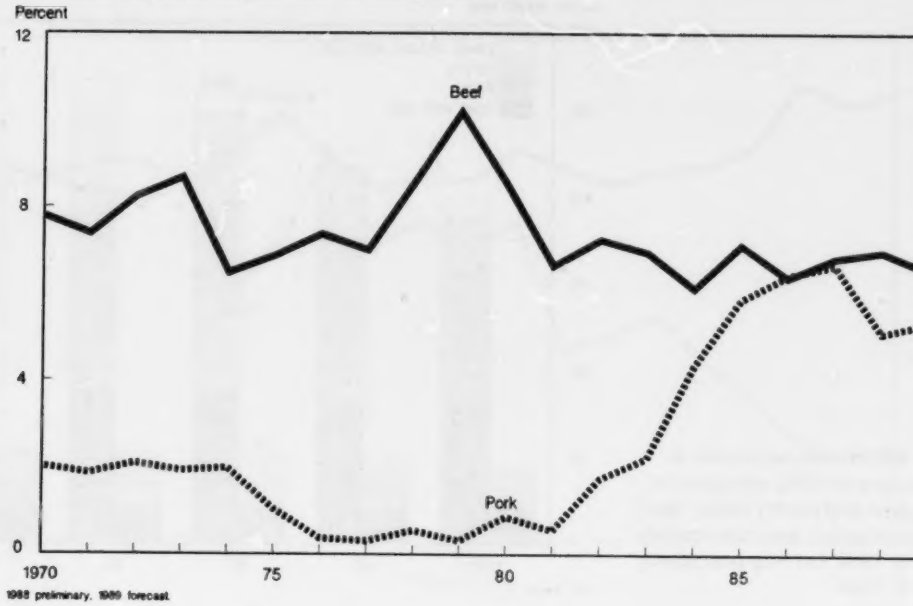
T30
U.S. per capita meat consumption



1988 preliminary, 1989 forecast.

T31

Net meat imports as percent of U.S. production

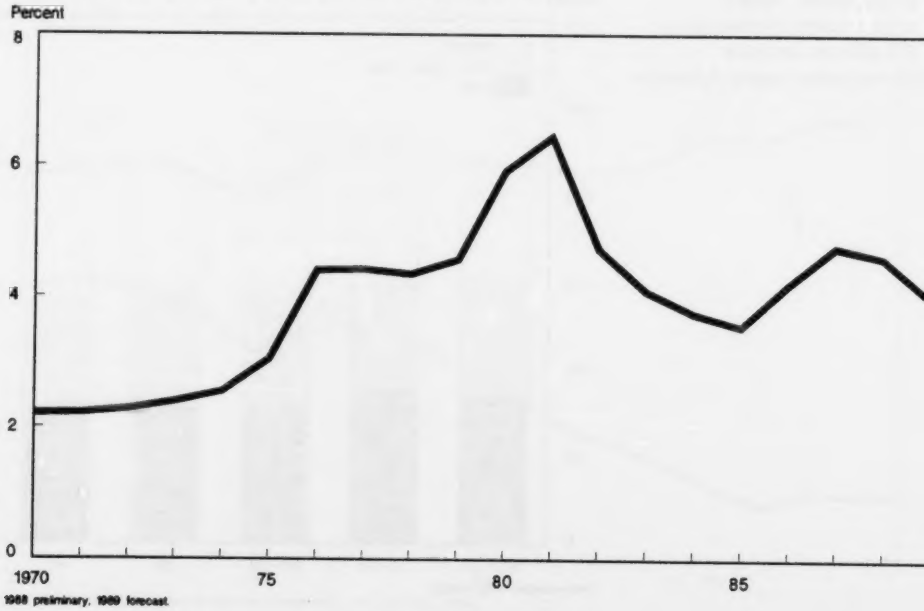


Beef imports increased to nearly 2.4 billion pounds in 1988, or about 9.5 percent of consumption. Pork imports fell about 5 percent in 1988, equaling nearly 7 percent of consumption.

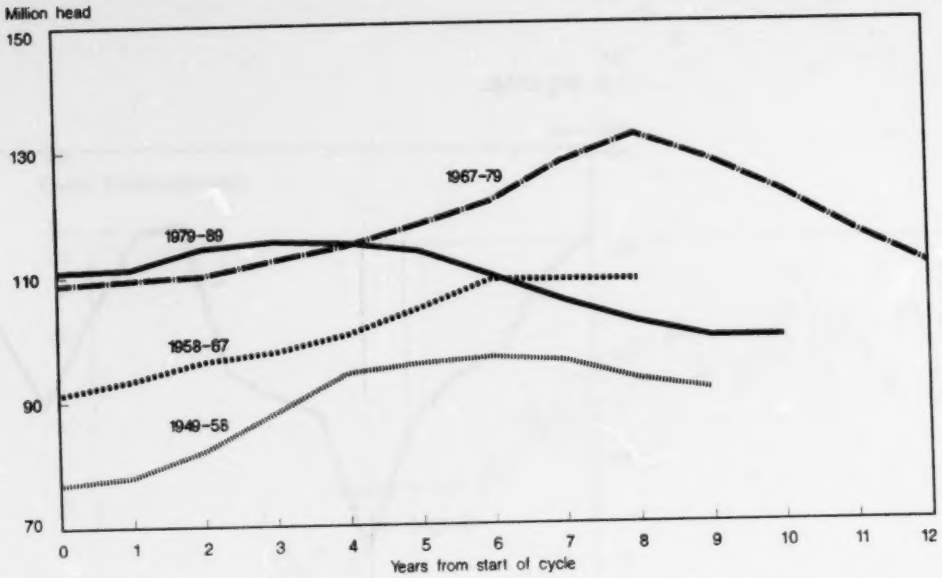
Poultry meat exports account for a larger percentage of production than either beef or pork. Poultry meat exports are expected to fall slightly in 1989.

T32

Net poultry exports as percent of U.S. production



T33
U.S. cattle cycles



Cattle on U.S. farms, January 1.

U.S. cattle inventory stabilized in 1988 after declining more than 2 percent in 1987. Beef production in 1988 about matched 1987, but a small decline is expected this year.

Cattle on Farms, January 1

Item	1980	1985	1986	1987	1988	1989 P
			Million head			
Cattle on farms	111.2	109.7	105.5	102.0	99.5	99.5
All cows	47.9	46.2	44.8	44.3	43.4	43.9
Beef cows	37.1	35.4	33.6	33.8	33.1	33.7
Dairy cows	10.8	10.8	11.2	10.5	10.3	10.2

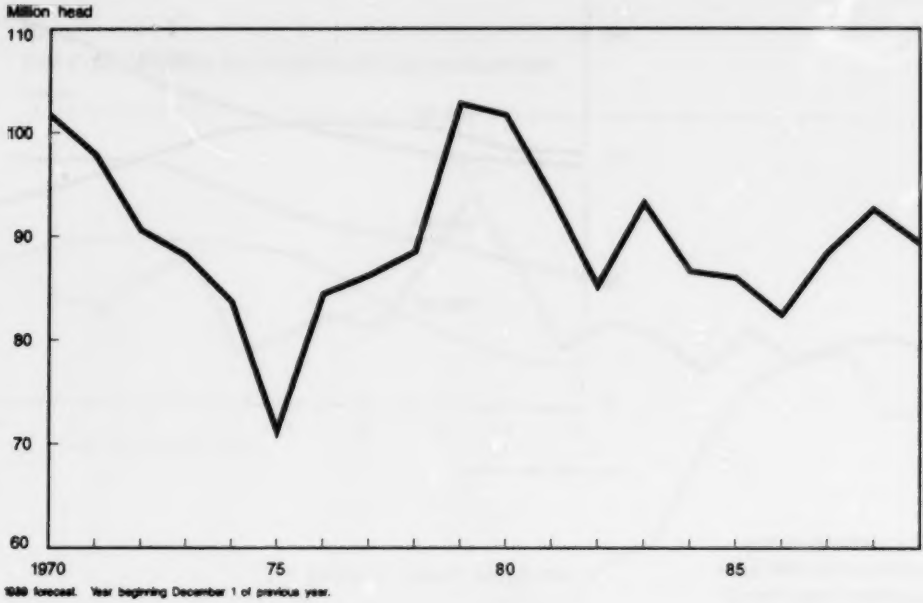
P = Preliminary.

Hogs on Farms

Item	1980	1985	1986	1987	1988	1989
			Million head			
All hogs and pigs 1/	67.32	54.07	52.31	50.92	54.6	55.3
Kept for breeding 1/	9.65	6.93	6.78	6.67	7.15	7.0
Market 1/	57.67	47.14	45.53	44.25	47.47	48.26
U.S. pig crop	102	86	82	88	93	87-91

1/ December preceding year.

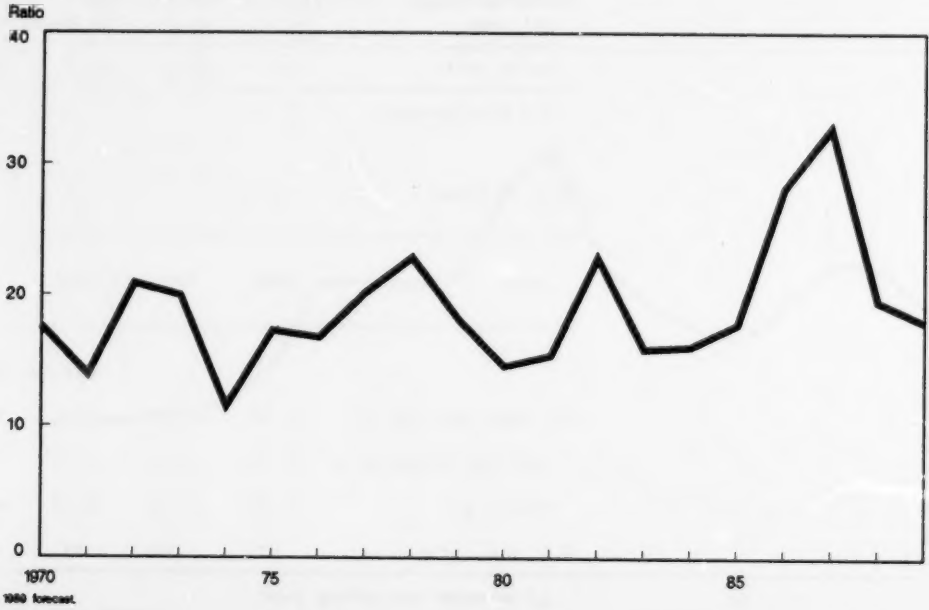
T34
U.S. pig crop



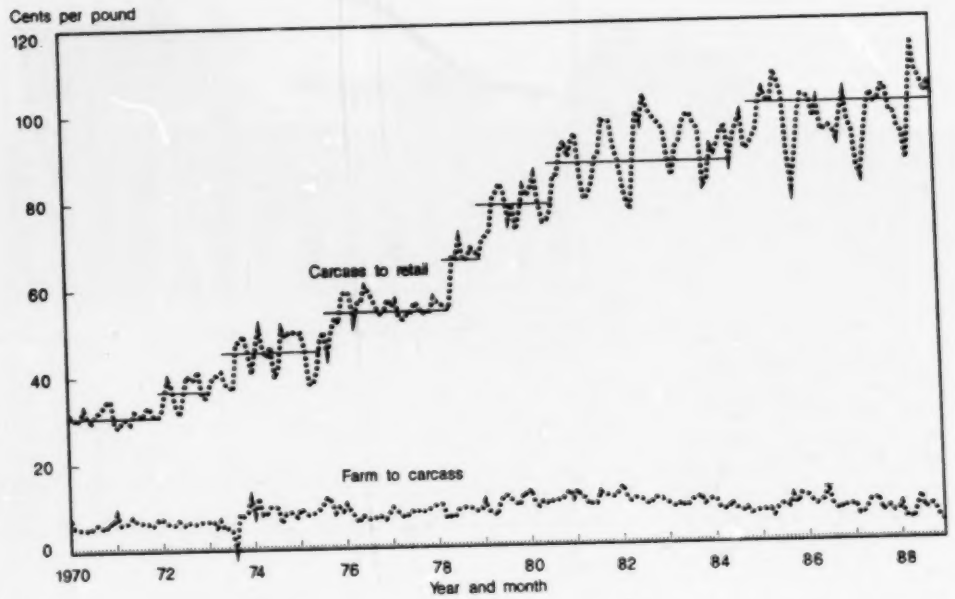
Pork production in 1988 rose about 9 percent, weakening hog prices. As higher feed costs squeezed producer returns, producers cut their breeding herds.

The hog/corn price ratio (bushels of corn equivalent in value to 100 pounds liveweight of hogs) declined to 19.0 in 1988, down from the record high 32.7 in 1987.

T35
Hog-corn price ratio



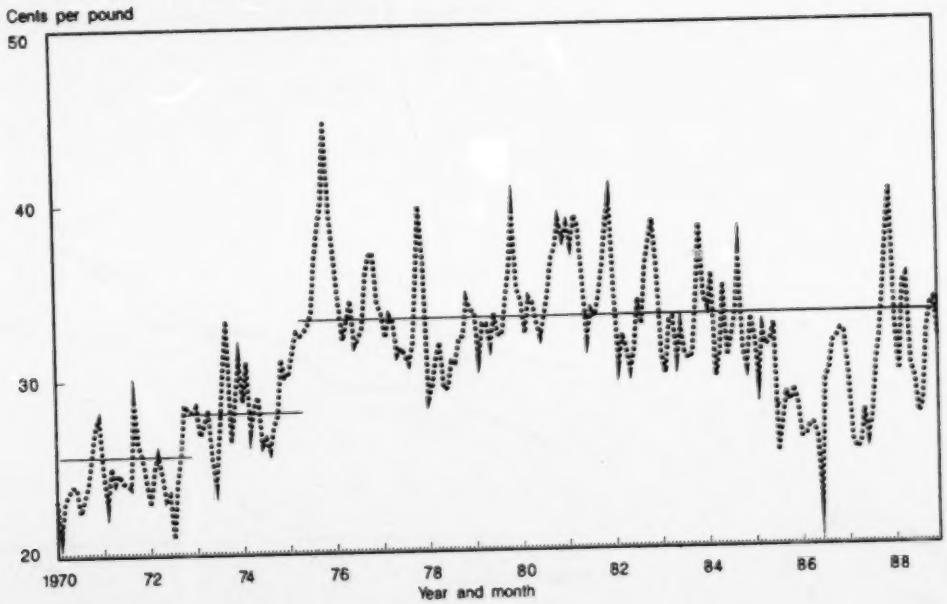
T36
Beef: Price spread



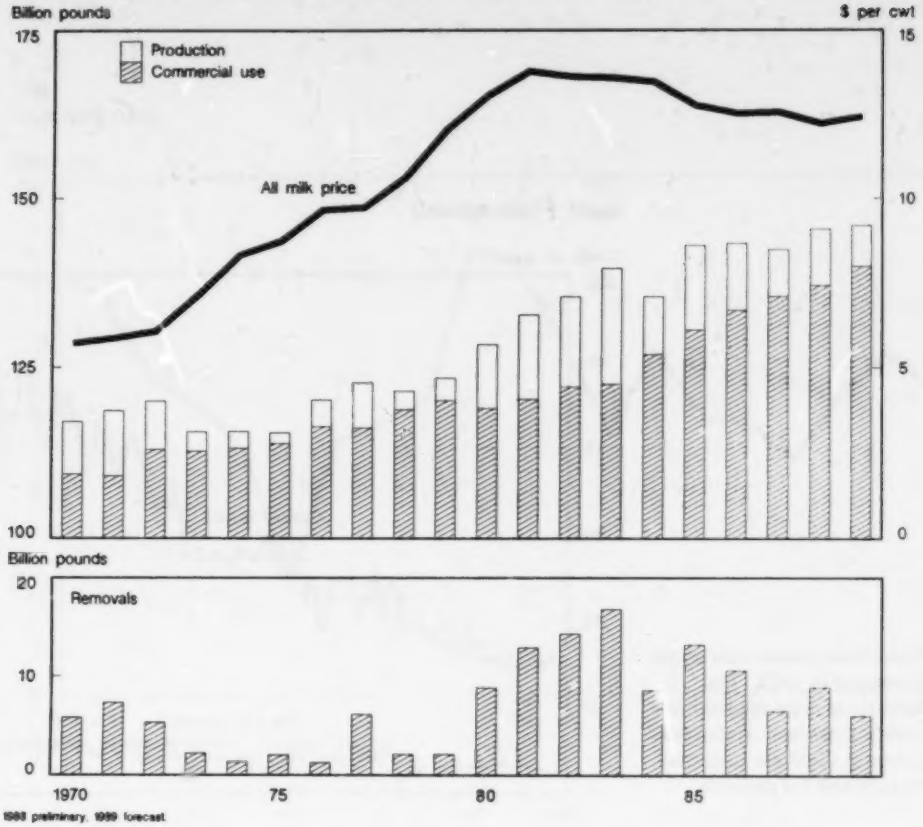
Retail beef prices rose about 5 percent in 1988. The farm-retail price spread rose nearly 3 percent. Retail beef prices in 1989 are expected to increase 2-4 percent.

Retail pork prices fell nearly 3 percent in 1988. The pork farm-retail price spread rose almost 8 percent, with most of the increase in the wholesale-retail portion. Retail pork prices may rise slightly in 1989.

T37
Pork: Farm to wholesale spread



T38
U.S. milk production, use, prices, and removals

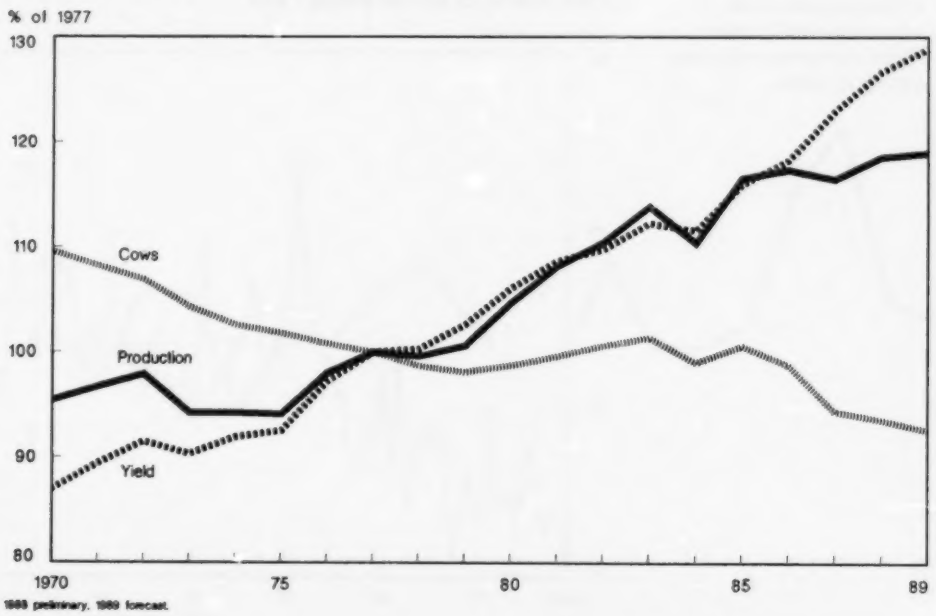


1988 preliminary, 1989 forecast.

U.S. milk production may increase moderately this year, but may not quite match last year's 2 percent rise. Continued strength in commercial milk use is likely, holding prices a little above the 1988 average.

Output per cow rose more than 3 percent in 1988, and is expected to rise again in 1989.

T39
Milk production, number of cows, and milk per cow



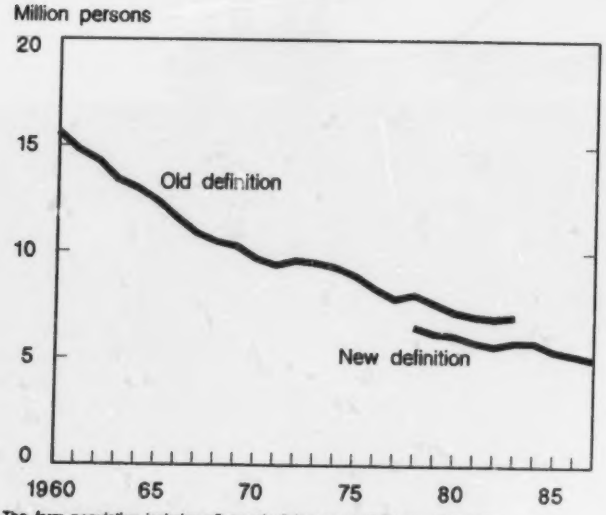
1988 preliminary, 1989 forecast.

Background Charts for U.S. Agriculture

Farm Population

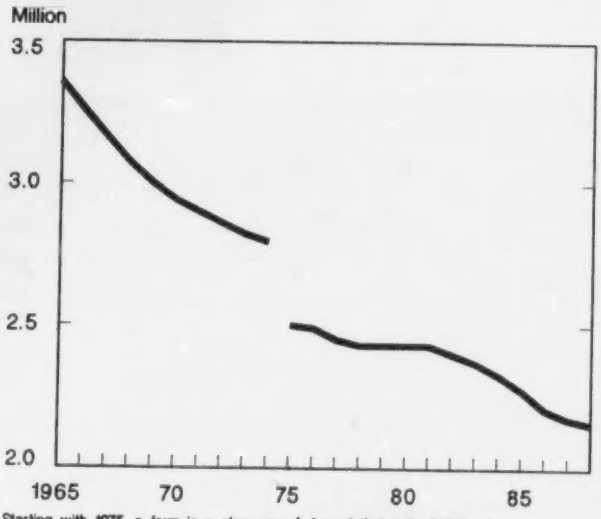
The Nation's farm resident population fell by about a million during the 1980's, continuing a long downward trend. Farm residents are generally older than nonfarm residents and their median age continues to rise. Total farm entrepreneurial population numbered 5.7 million in 1987.

Chart 1
Farm population



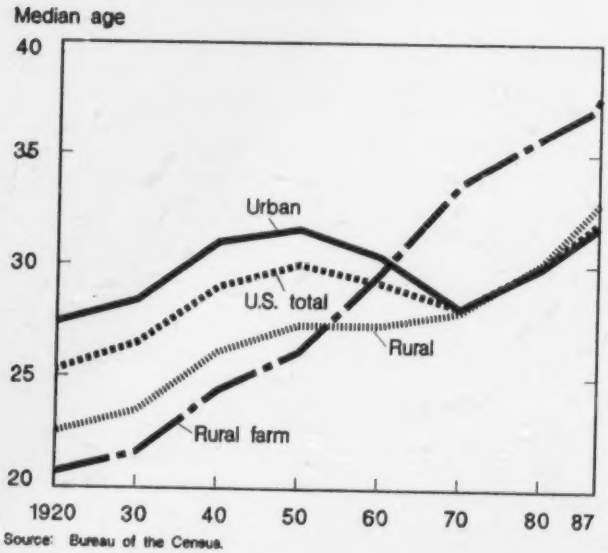
The farm population includes all people living on rural farms. For farm definitions, see 1982 Census of Agriculture. Source: Bureau of the Census.

Chart 2
Number of farms



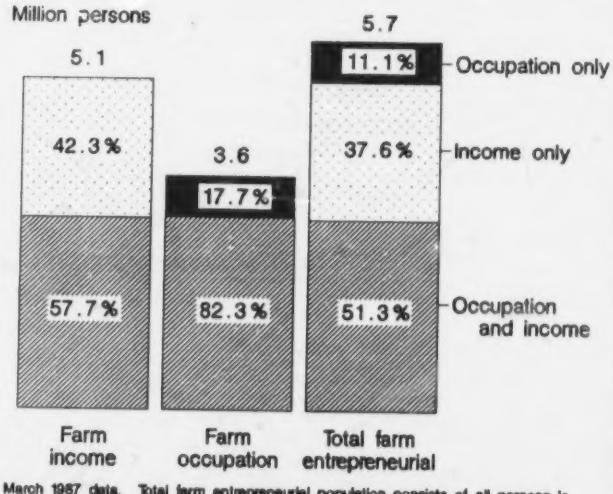
Starting with 1975, a farm is a place as of June 1 that sells $1,000 of agricultural products during the year.

Chart 3
Median age of the population by residence



Source: Bureau of the Census.

Chart 4
Composition of the farm entrepreneurial population

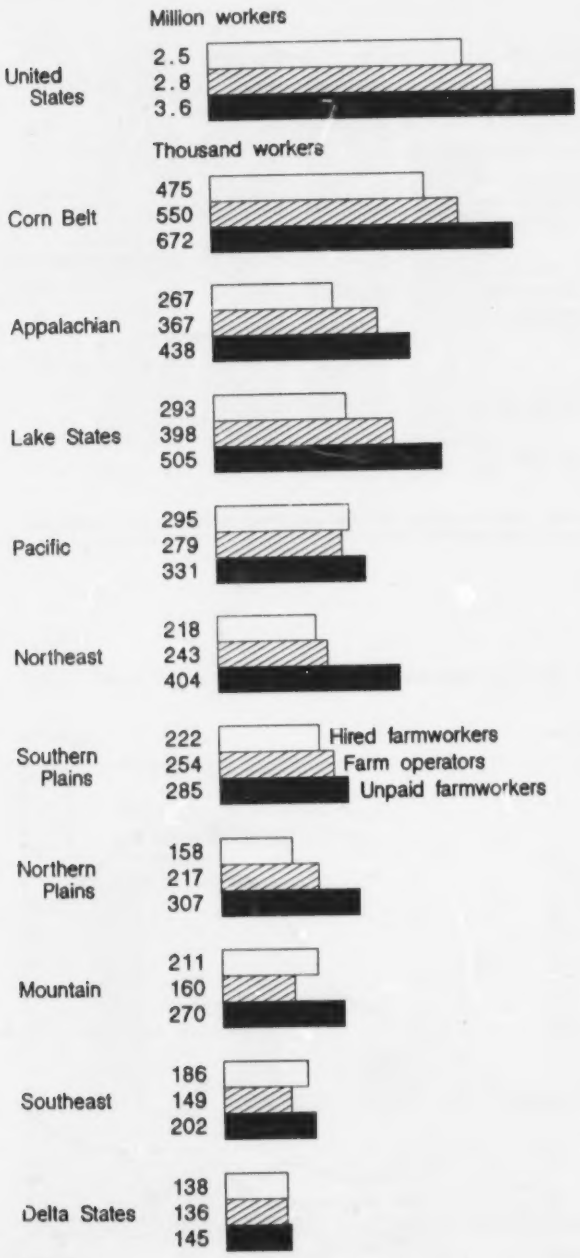


March 1987 data. Total farm entrepreneurial population consists of all persons in households where at least one member is employed primarily as a farm operator or manager and/or receives farm self-employment income.
Source: Bureau of the Census.

Farmworkers

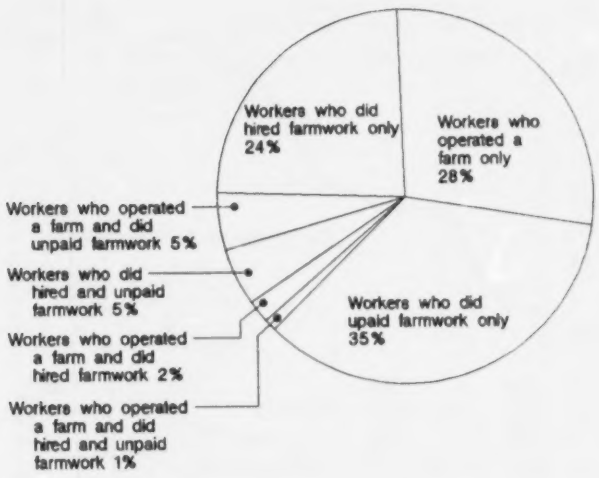
About 7.7 million people did some farmwork during 1987, including 2.5 million hired farmworkers, 2.8 million farm operators, and 3.6 million unpaid farmworkers. Over 1 million workers, or 13 percent of the agricultural work force, performed in more than one of these categories.

Chart 5
Number of farmworkers by region



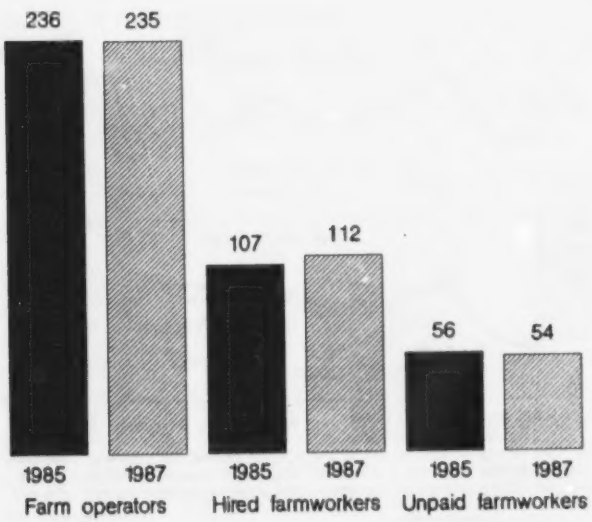
1987 data.

Chart 6
Components of the agricultural work force


Workers who did hired farmwork only 24%
Workers who operated a farm only 28%
Workers who operated a farm and did unpaid farmwork 5%
Workers who did hired and unpaid farmwork 5%
Workers who operated a farm and did hired farmwork 2%
Workers who operated a farm and did hired and unpaid farmwork 1%
Workers who did upaid farmwork only 35%

1987 data.

Chart 7
Average days of farmwork by the agricultural work force



Income

Gross farm income totaled $169.8 billion in 1987, up 6.3 percent from 1986. Net farm income rose 23.5 percent in 1987 as returns to operators rose 27.2 percent. Net cash income rose 11.1 percent, net cash flow rose 34.4 percent, and net business income rose 19.7 percent.

Chart 8
Components of gross farm income

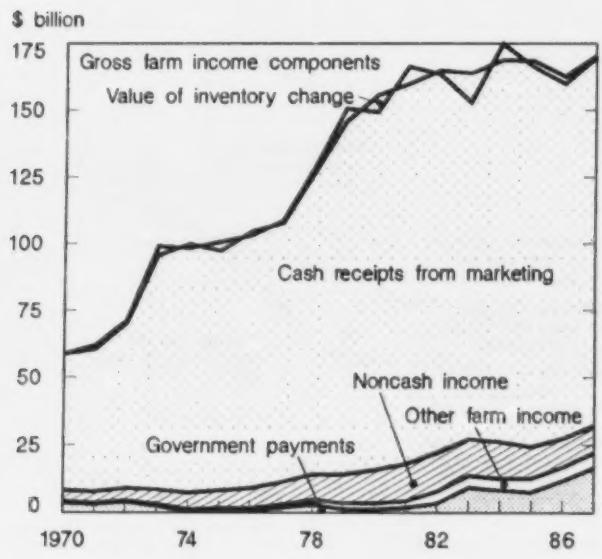
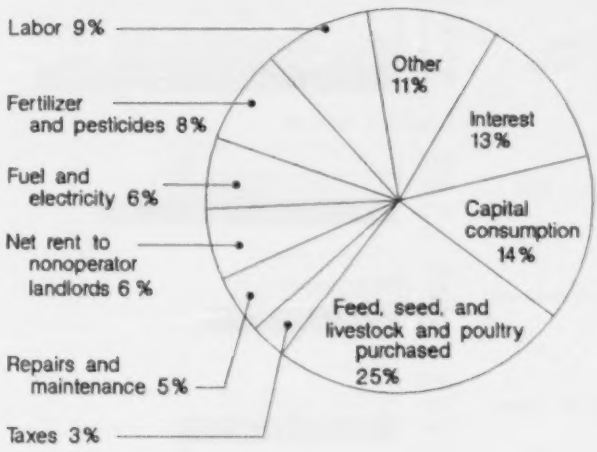
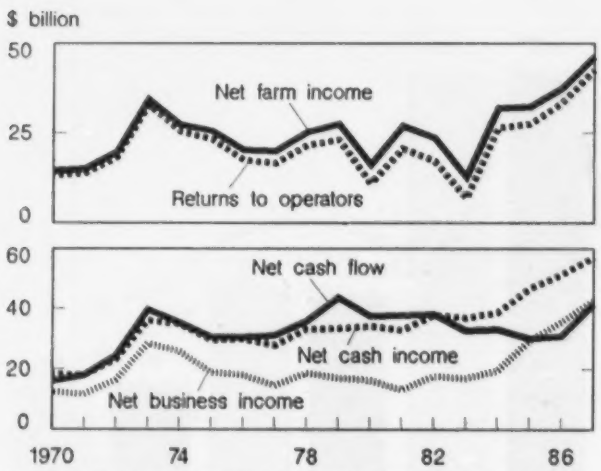


Chart 9
Components of farm production expenses



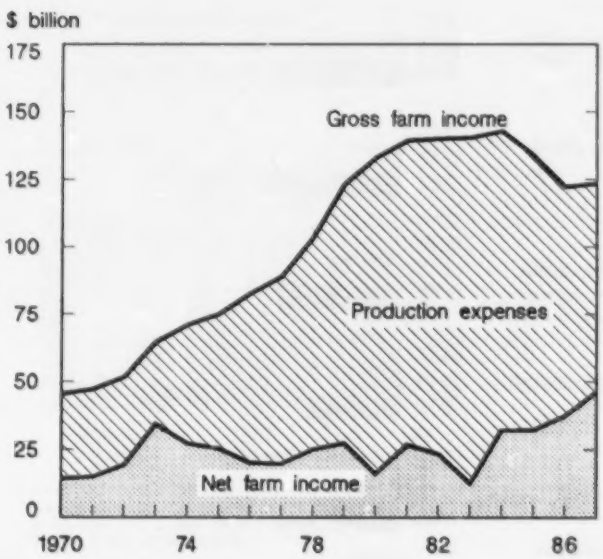
1987 data. Includes operator farm dwellings. Other expenses include machine hire and customwork; marketing, storage, and transportation; and miscellaneous.

Chart 10
Measures of farm income



Net farm income includes household and noncash income and expenses. Net cash income excludes household and noncash income and expenses. Net cash flow is net cash income plus annual changes in debt, currency, demand deposits, plus rent paid to landlords, less capital expenditures.

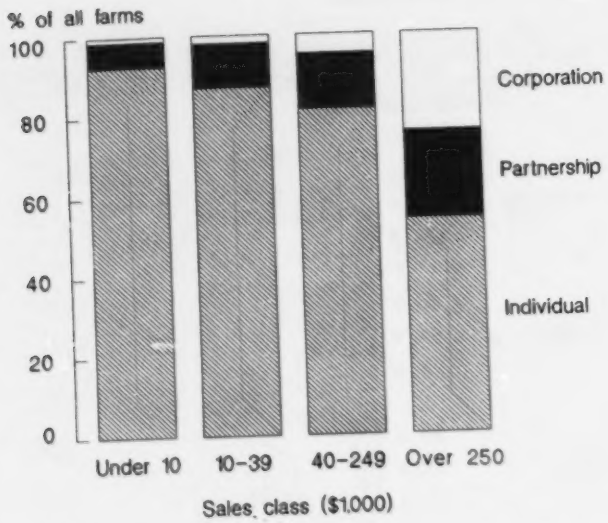
Chart 11
Net farm income



Income

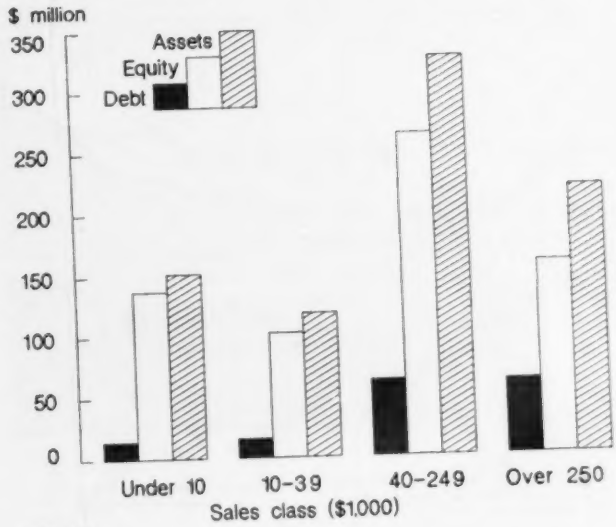
As farm size increases, the percentage of sole proprietor farms drops, as does the importance of off-farm income. Debt as a percentage of assets falls as farm size decreases. The largest farms have the largest share of gross cash income, while the largest number of farms is in the smallest sales class.

Chart 12
Farm organization by size of farm



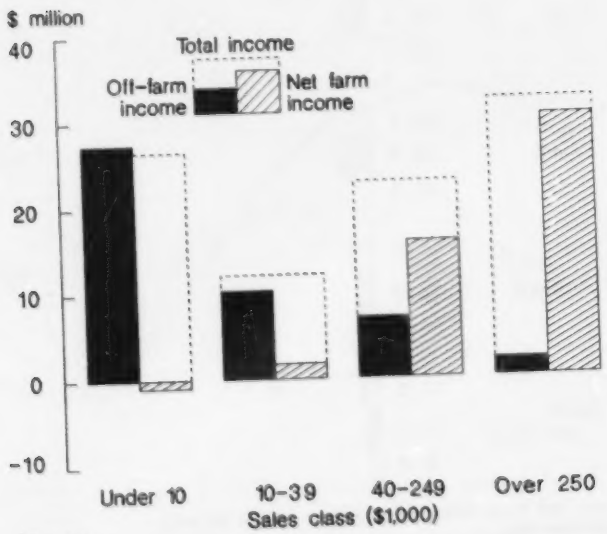
1982 data.

Chart 13
Farm operator debt and equity by size of farm



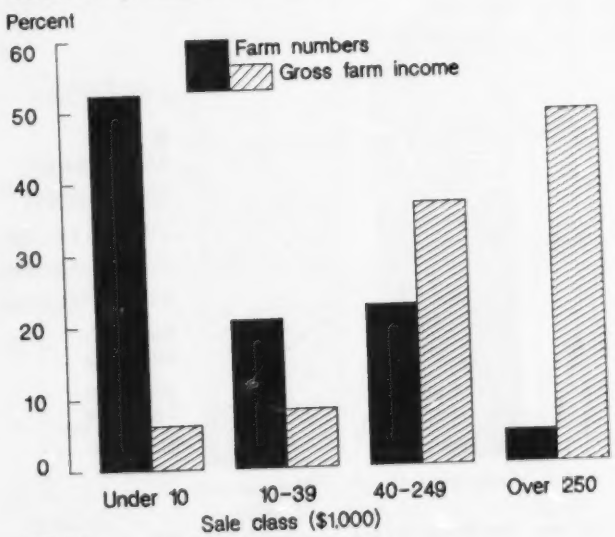
1987 data.

Chart 14
Total farm operator income by size of farm



1987 data.

Chart 15
Distribution of farms and gross farm income by size of farm



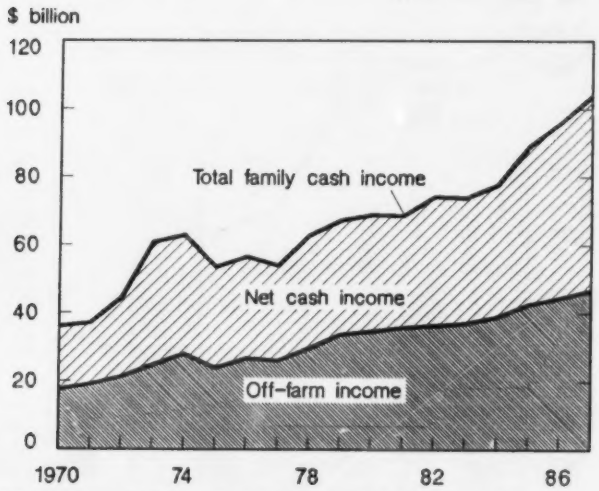
1987 data.

Income

Total family cash income, the sum of net cash income and off-farm income, rose 8.2 percent in 1987. Farms with sales over $40,000 represented 27 percent of all farms but 91 percent of the cash receipts from marketing farm commodities.

Chart 16

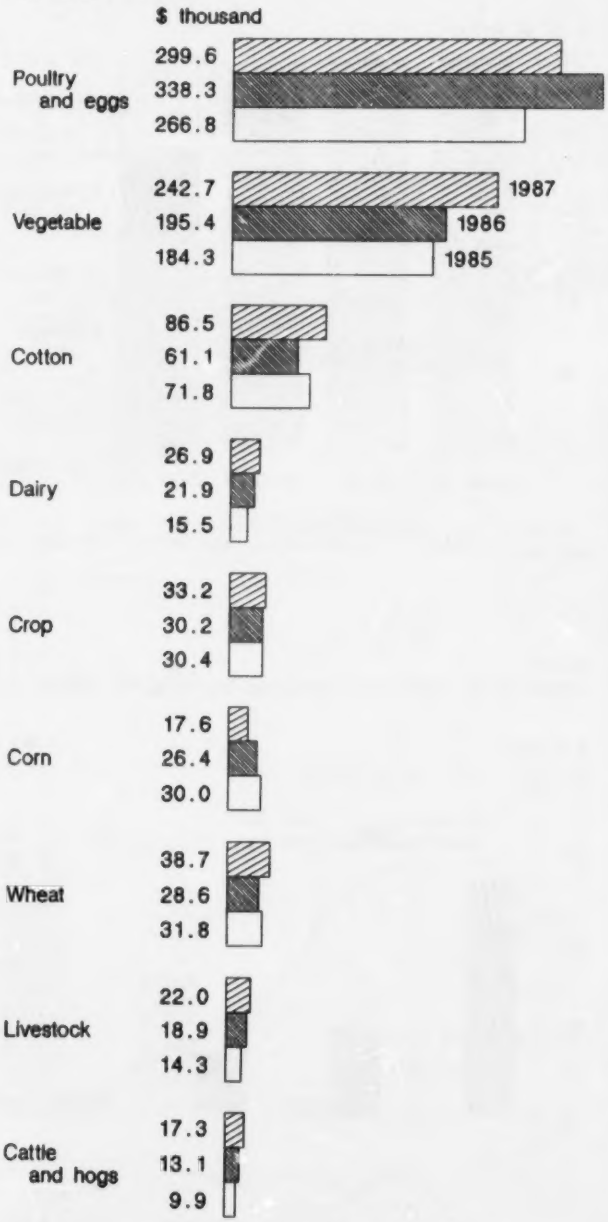
Cash income of farm operator households



Net cash income includes an adjustment for changes in yearend crop and livestock inventories and represents returns to operator families' labor, capital and management.

Chart 17

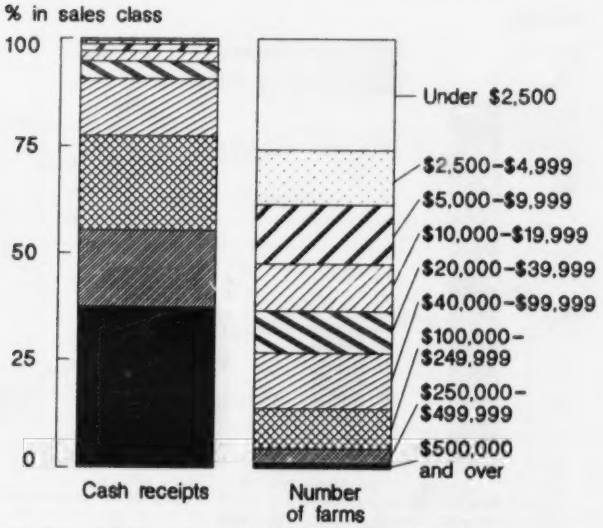
Net cash distribution of income by type of farm



1987 data. These distributions are per farm averages, not actual observed data.

Chart 18

Cash receipts and farms by sales class



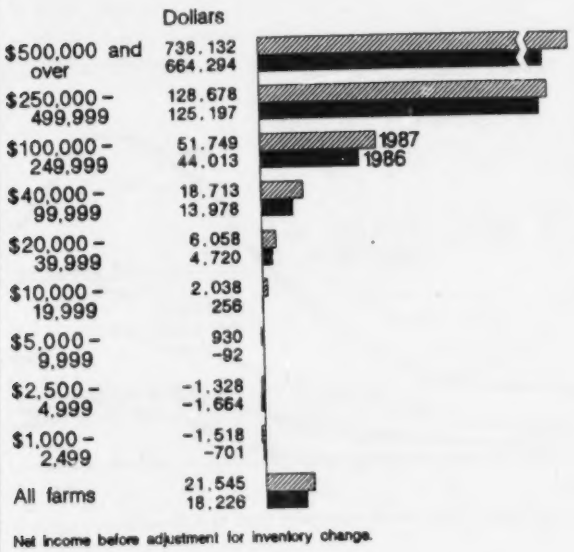
1987 data. Cash receipts from farm marketings include net CCC loans.

Income

Net farm income increased in 1987 for all farms except the smallest farms, whose gross sales of commodities were less than $2,500. Prices for most major commodities were higher in 1987, with prices for cattle and soybeans rising over 15 percent. The prices received index rose 3 percent in 1987, while the prices paid index rose 2 percent.

Chart 19

Average net farm income by sales class



Net income before adjustment for inventory change.

Chart 20

Prices received by farmers for major commodities

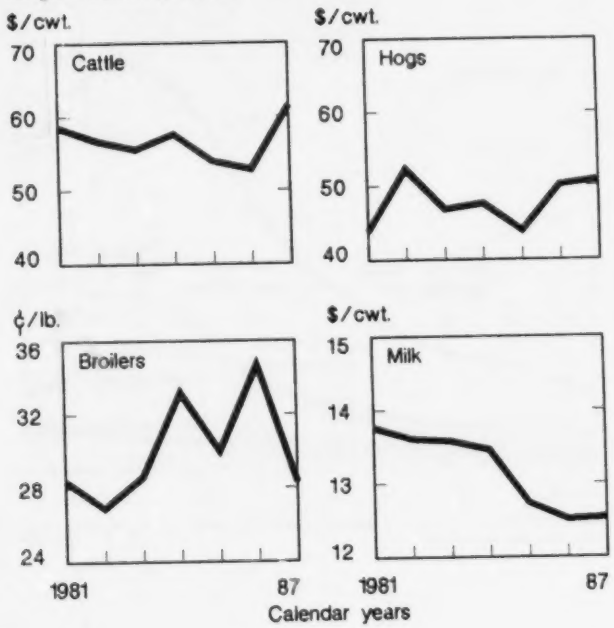
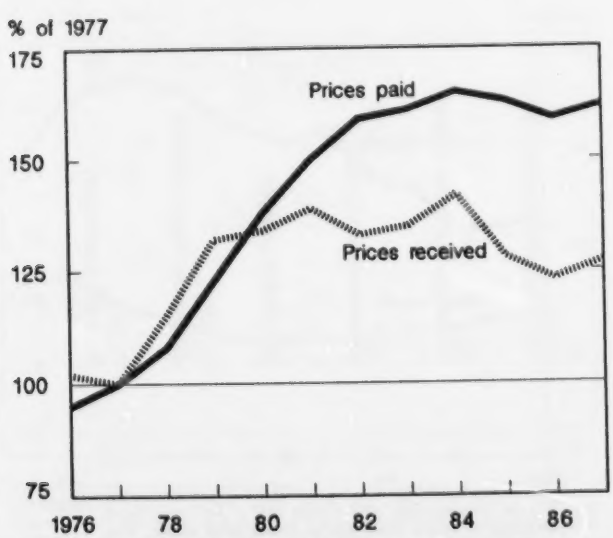
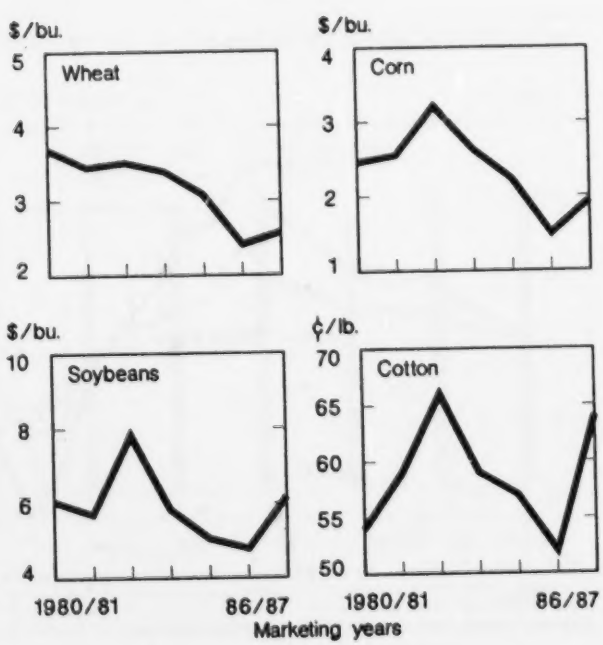


Chart 21

Prices received and paid by farmers



Prices paid includes commodities, services, interest, taxes, and wage rates.

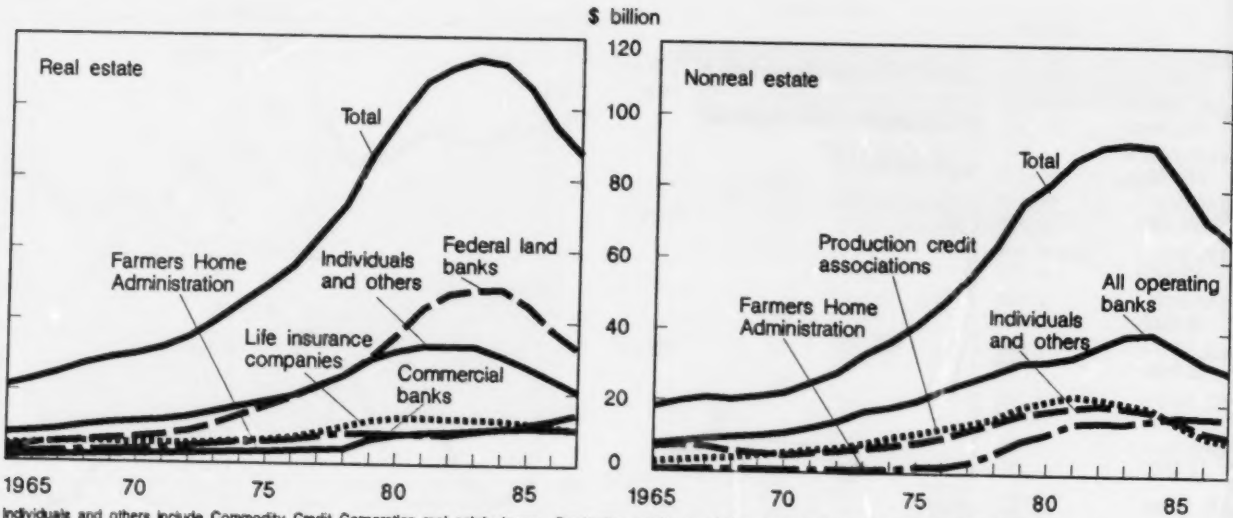


Farm Debt

Both real estate and nonreal estate farm loans fell during 1987, as farmers used increased cash income to reduce loan balances. Real estate and nonreal estate debt-to-asset ratios fell due to reduced debt and increased asset values.

Chart 22

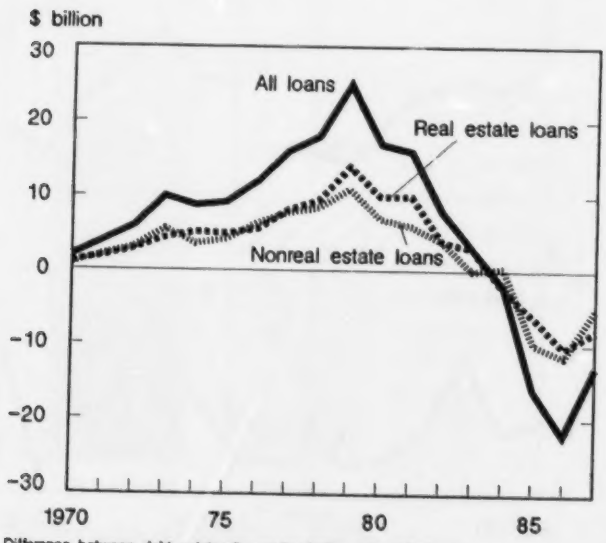
Who holds the farm debt



Individuals and others include Commodity Credit Corporation real estate loans. Production credit associations include Federal Intermediate Credit Bank loans to other financial institutions.

Chart 23

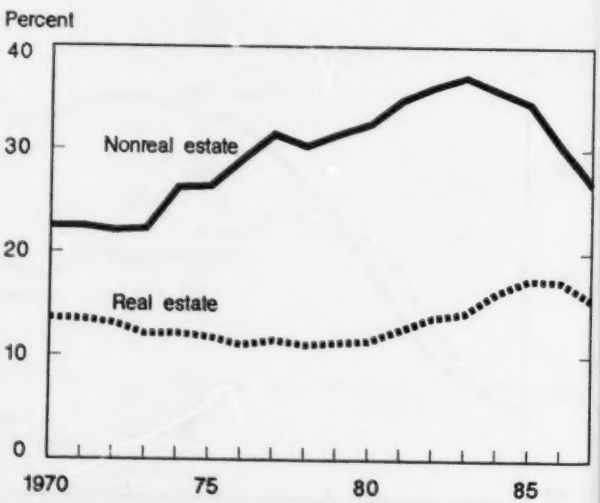
Annual change in farm debt



Difference between debt outstanding at beginning and end of year.

Chart 24

Farm debt as percentage of assets

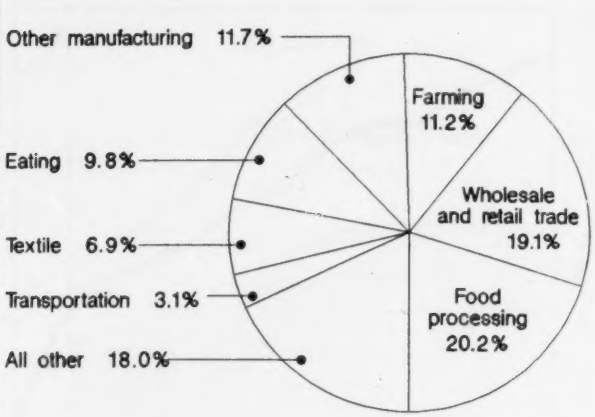


Debt is shown as percentage of real estate debt to real estate assets and percentage of nonreal estate debt to nonreal estate assets. Data as of December 31.

Food and Fiber System

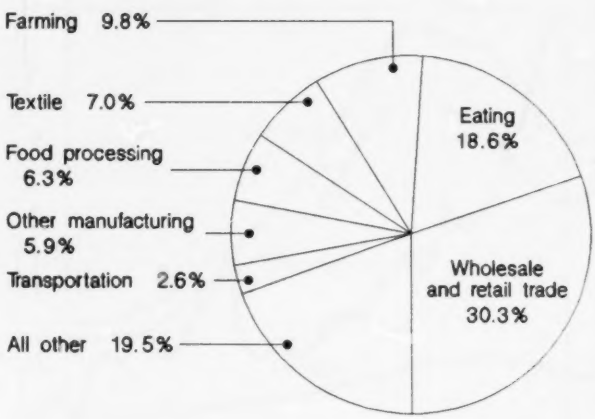
The food and fiber system employed 20 million workers in 1987, or 16.7 percent of the civilian work force. Personal consumption expenditures for food accounted for most of the final demand for crop output and almost all the final demand for livestock output in 1987.

Chart 25
Total output by sectors of the food and fiber system



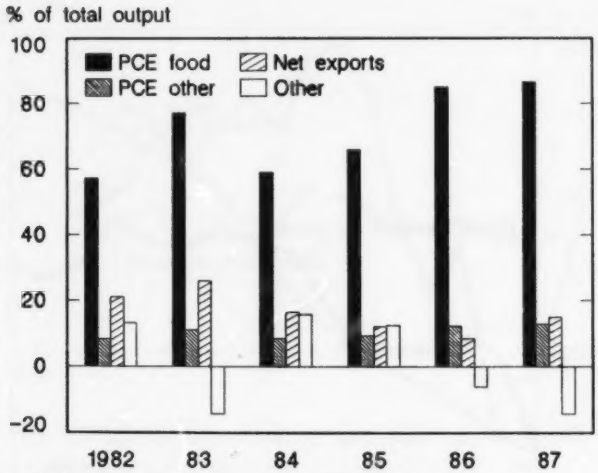
1987 data.

Chart 26
Distribution of food and fiber system employment



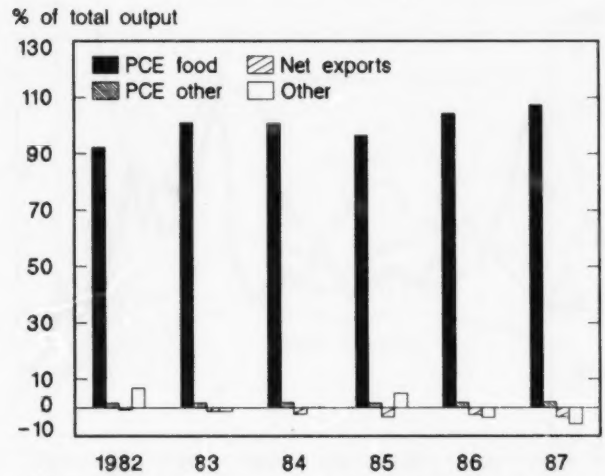
1987 data.

Chart 27
Sources of demand for crop output



PCE is personal consumption expenditures. PCE other includes domestic consumption of tobacco, clothing, shoes, cut flowers, and potted plants. Other includes private and public farm inventory changes, farm capital expenditures, direct government uses, and nonfarm related final demands.

Chart 28
Sources of demand for livestock output



PCE is personal consumption expenditures. PCE other includes domestic consumption of tobacco, clothing, shoes, cut flowers, and potted plants. Other includes private and public farm inventory changes, farm capital expenditures, direct government uses, and nonfarm related final demands.

Agriculture and the General Economy

After the 1970's export boom, the farm sector resumed its historical downward trend as a share of the general economy. Rapidly rising prices for farm goods during the 1970's contributed to higher consumer prices, but farm prices have had a moderating influence on consumer prices since 1980.

Chart 29
Gross farm product share of gross national product

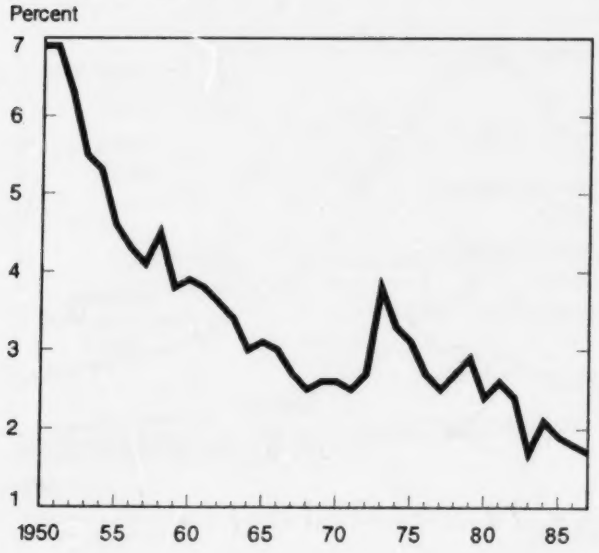


Chart 30
Food and fiber system employment as a percentage of total civilian employment

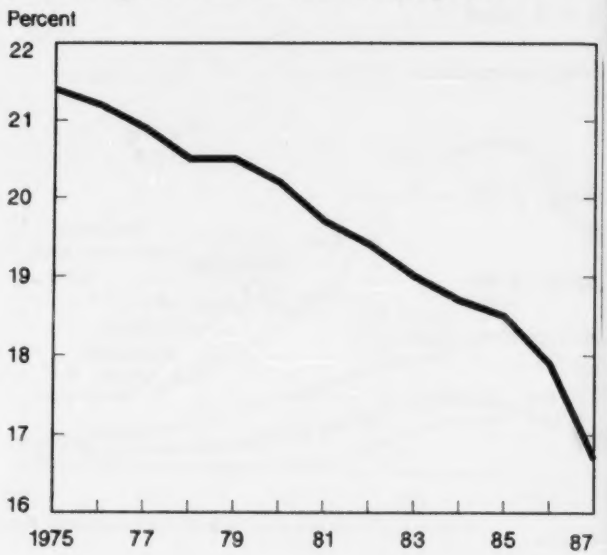
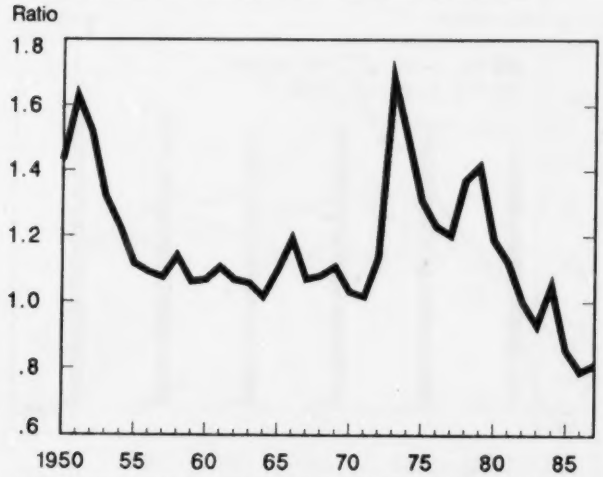
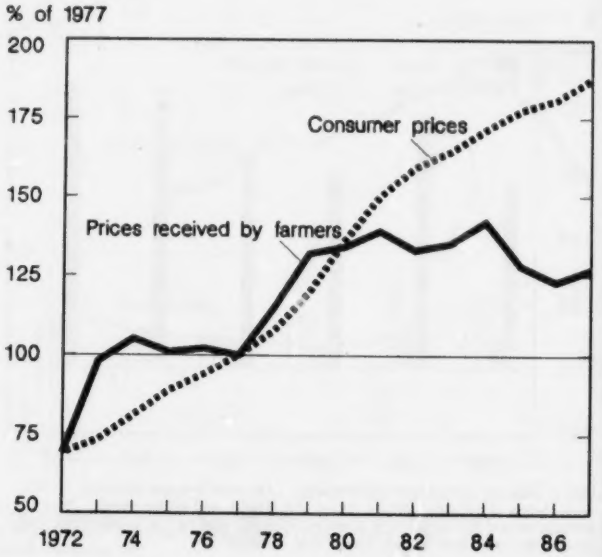


Chart 31
Ratio of implicit price deflators for gross farm product and gross national product



An implicit price deflator measures effect of changes in output and input prices on returns to land, labor, and capital. This ratio signals a continued disinvestment from the farm sector because the nonfarm sector can pay more for available productive factors.

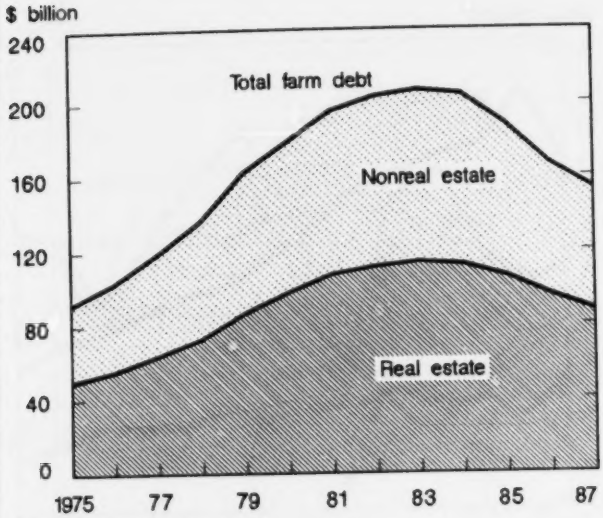
Chart 32
Consumer prices and prices received by farmers



Assets and Finance

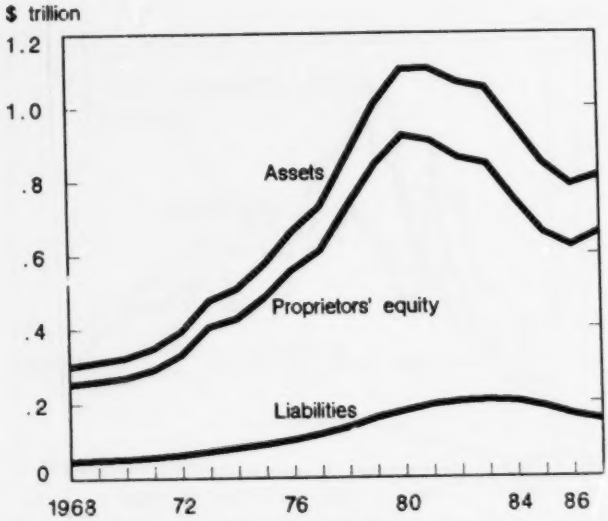
Total farm debt fell $13.5 billion during 1987. Improving farmland prices contributed to the first annual increase in farm equity since 1980. Interest rates on farm real estate loans remained favorable in 1987, but real interest rates remain high.

Chart 33
Farm debt



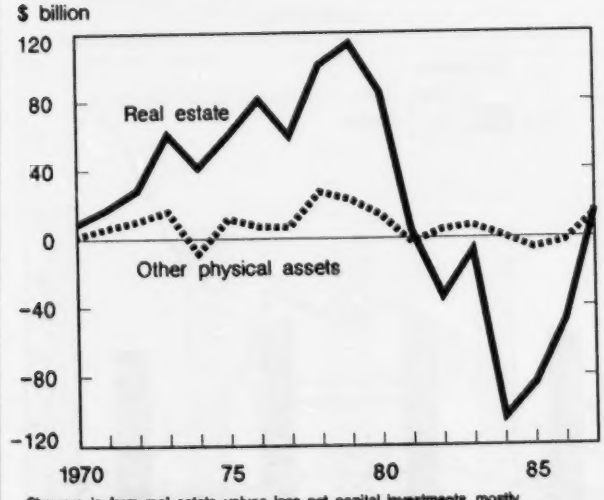
Farm loans outstanding December 31.

Chart 34
U.S. farm balance sheet



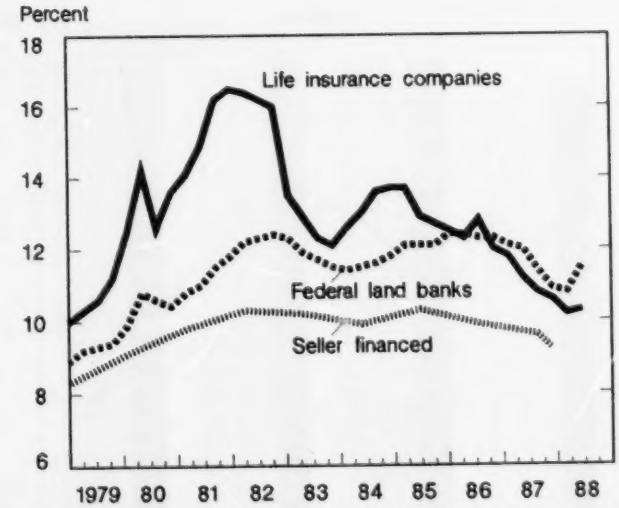
Data as of December 31. Includes farm households.

Chart 35
Changes in the value of farm physical assets



Changes in farm real estate values less net capital investments, mostly unrealized. Other physical assets include machinery and motor vehicles, livestock and poultry, and crops stored on farms.

Chart 36
Interest rates on farm real estate loans

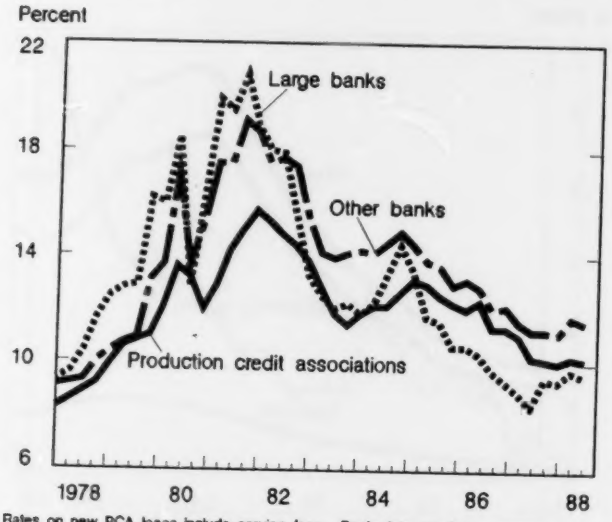


Federal land bank rates exclude new loan fees and charge for the stock borrowers are required to buy.

Finance and Inputs

Total farm fuel use declined in 1987 for the ninth consecutive year due to adoption of energy-saving production technologies, shift from gas to diesel-powered units, and reduced planted acreage.

Chart 37
Interest rates on farm nonreal estate loans



Rates on new PCA loans include service fees. Bank data are from surveys made by the Federal Reserve System.

Chart 38
Farm fuel use

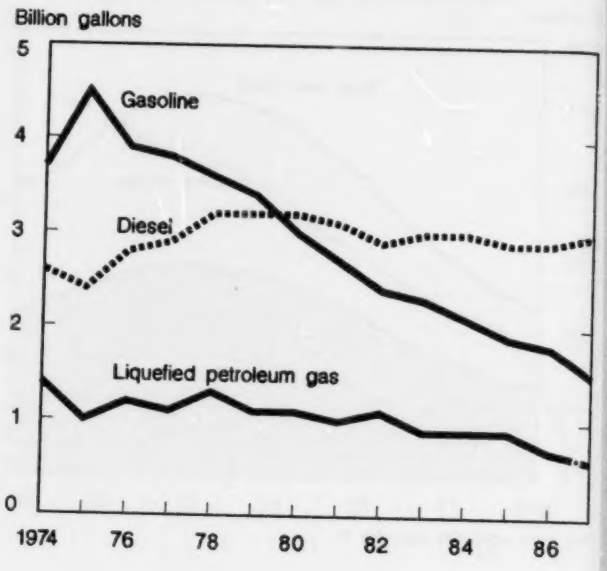
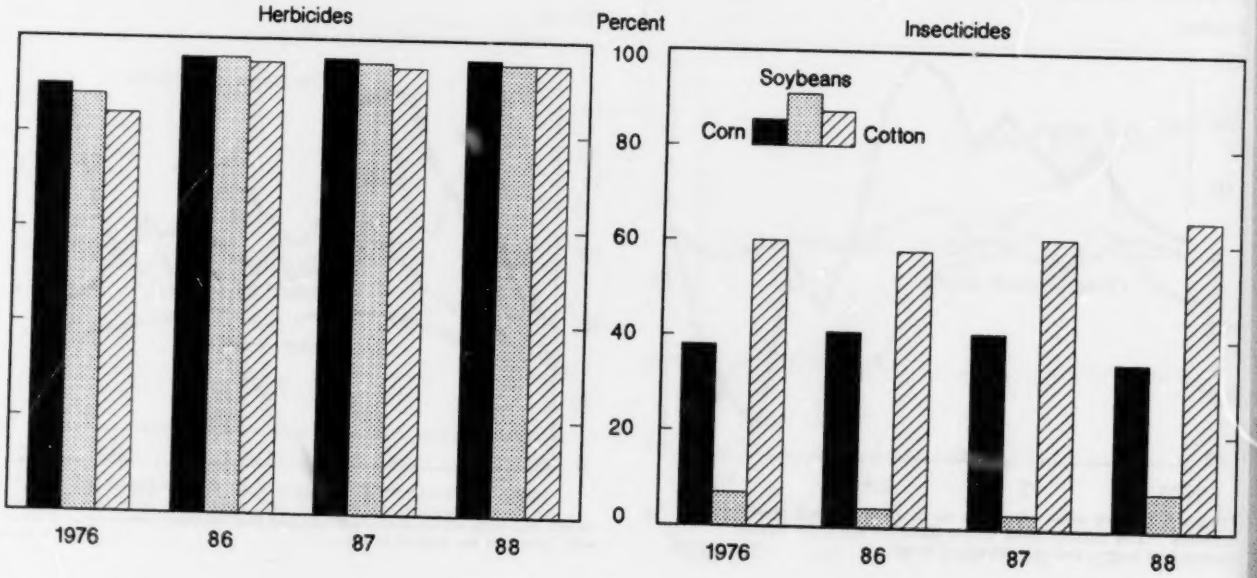


Chart 39
Crop acres treated with pesticides



Inputs

Fertilizer use rose in 1987 for the first time since 1984, due to stable crop acreage and higher commodity prices. Expenditures for farm machinery also rose in 1987, although much of the increase was for used tractors. Sales of over-99 horsepower two-wheel drive tractors rose in 1987, reversing their long downward trend.

Chart 40
Farm fertilizer use

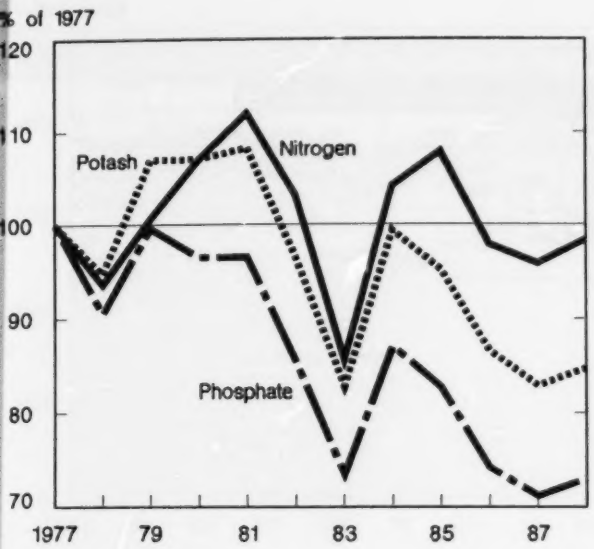


Chart 41
U.S. farm machinery expenditures

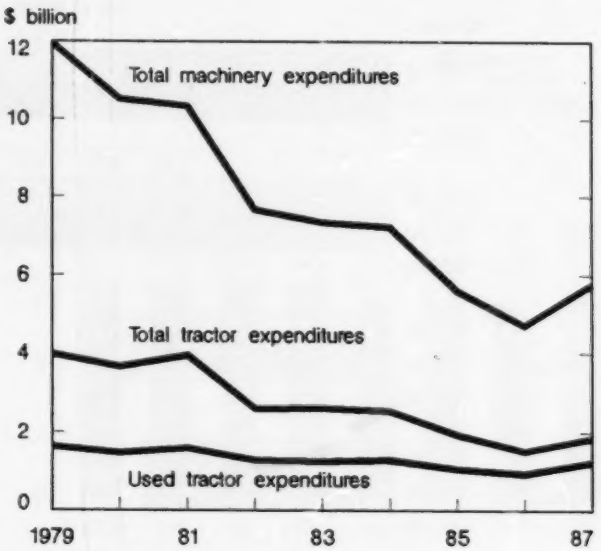
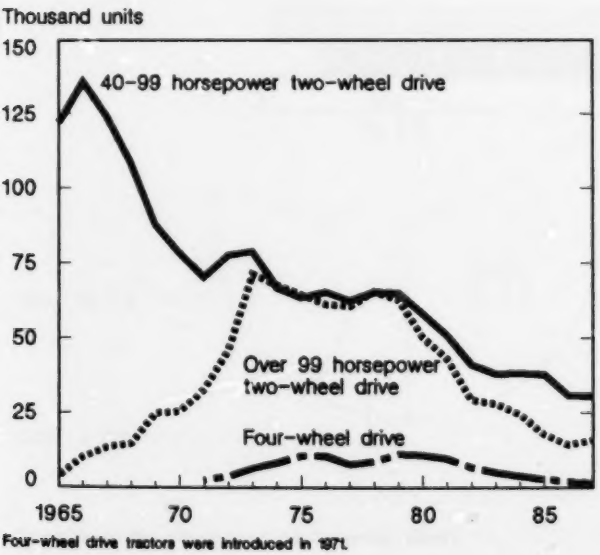
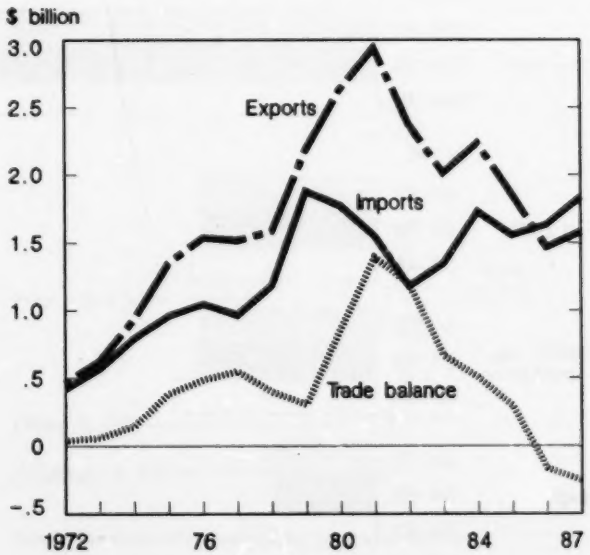


Chart 42
Farm wheel tractor unit sales



Four-wheel drive tractors were introduced in 1971.

Chart 43
U.S. farm machinery trade

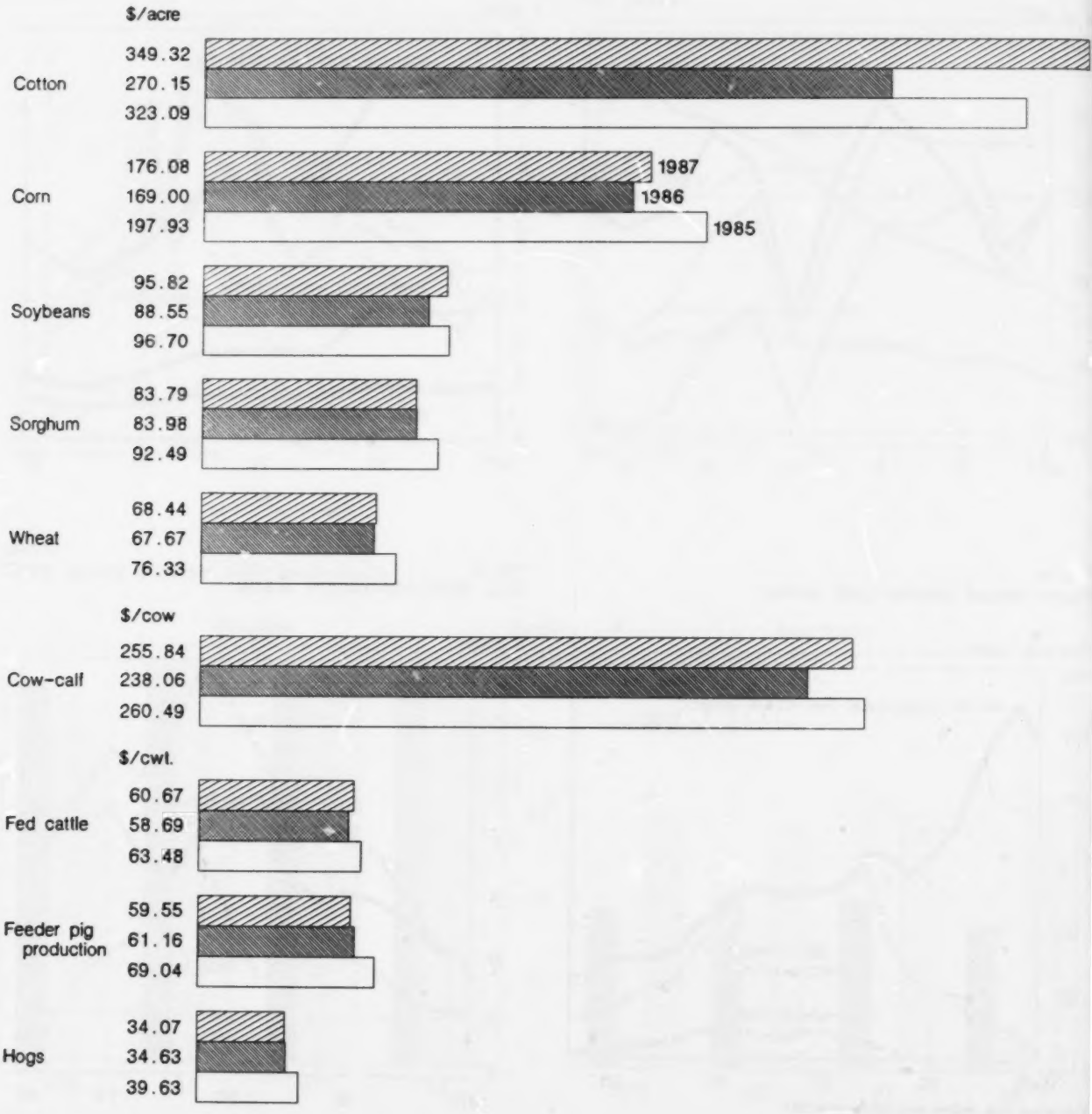


Costs and Returns

Production costs for most major field crops and livestock rose slightly in 1987. Lower expenses for fertilizer, chemicals, and livestock feed were offset by higher expenses for fuel and feeder livestock. Returns improved as crop and livestock prices rose more than production costs.

Chart 44

Crop and livestock production costs



Land Use

Cropland acreage harvested neared a record-low in 1988. Nearly one in five acres of non-Federal pasture is in poor condition, with vegetation not well suited to climate or soil, low fertilization, and improper grazing management, according to the 1982 National Resources Inventory. Range condition measures how well kinds, proportions, and number of plants in the present vegetation resemble the natural plant mix for the site.

Chart 45
Major cropland uses

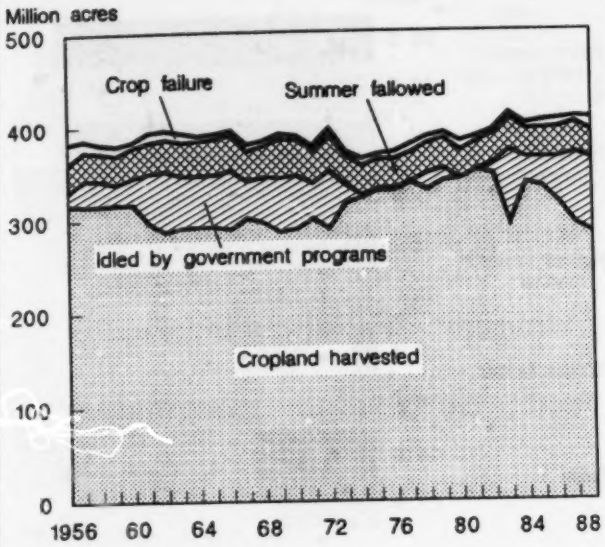


Chart 46
Pasture and range, by type

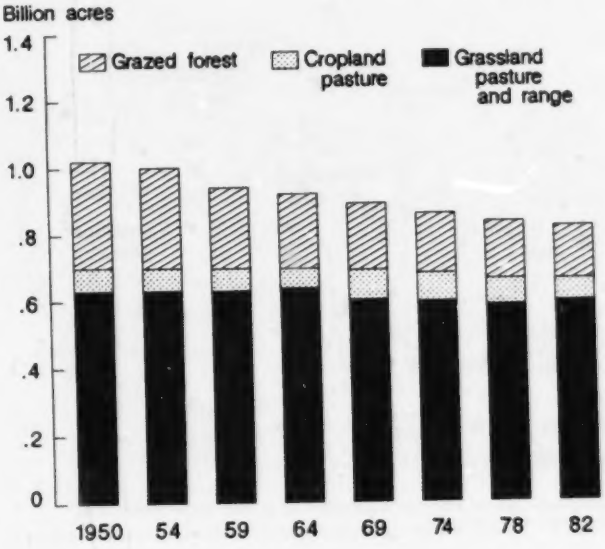
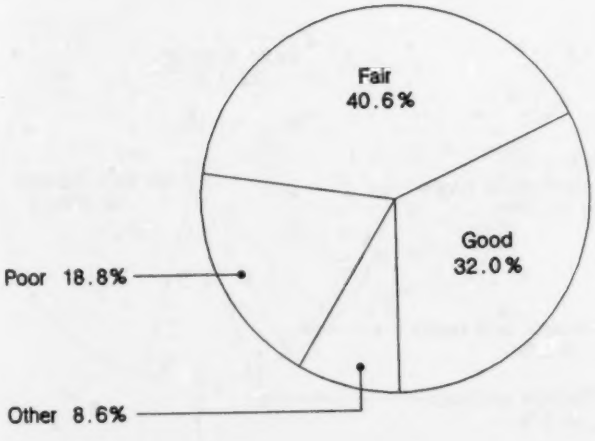
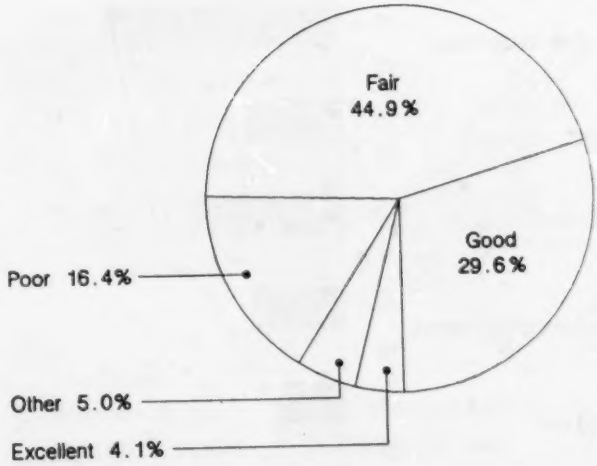


Chart 47
1982 non-Federal pasture condition



Source: National Resources Inventory, Soil Conservation Service.

Chart 48
1982 non-Federal range condition

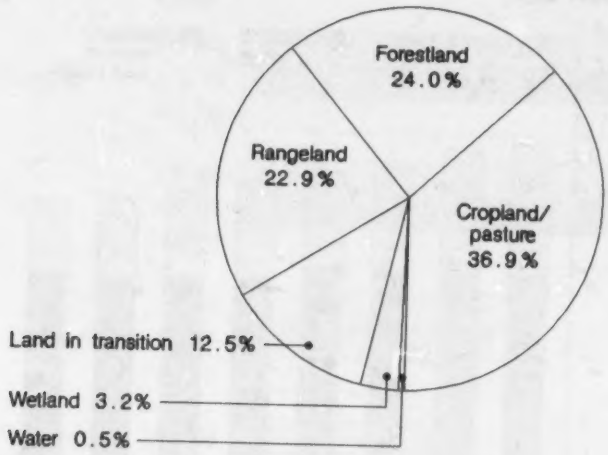


Source: National Resources Inventory, Soil Conservation Service.

Land Conversions and Transfers

Of the 2.3 million acres converted to urban uses during 1970-80 in fast-growth counties, cropland and pasture was the major contributor with 854,000 acres. About three-fourths of agricultural land transferred in 1987 was transferred by sale, with about half of the land in these transferred by an arms' length sale. About 60 percent of agricultural land transfers involve some financing.

Chart 49
Urbanized land in fast-growth counties, by prior land use



Fast growth counties increased in population by at least 25,000 people and 25 percent during 1970-80.

Chart 50
Acquirers of agricultural land, 1987

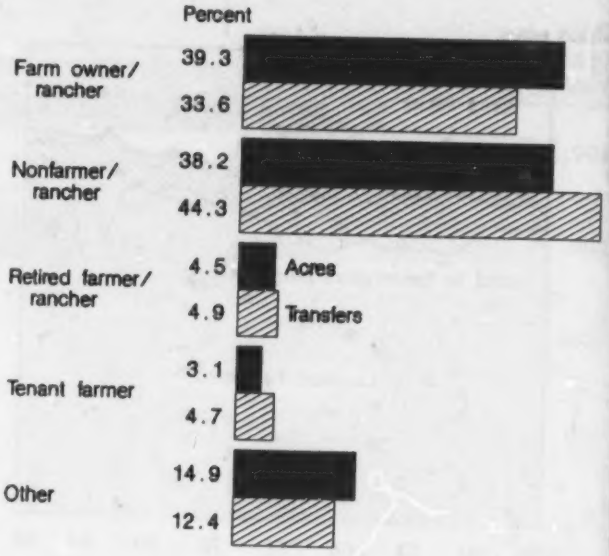
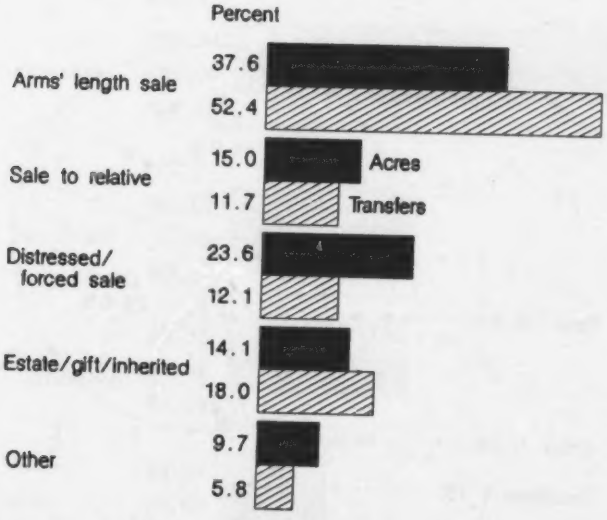
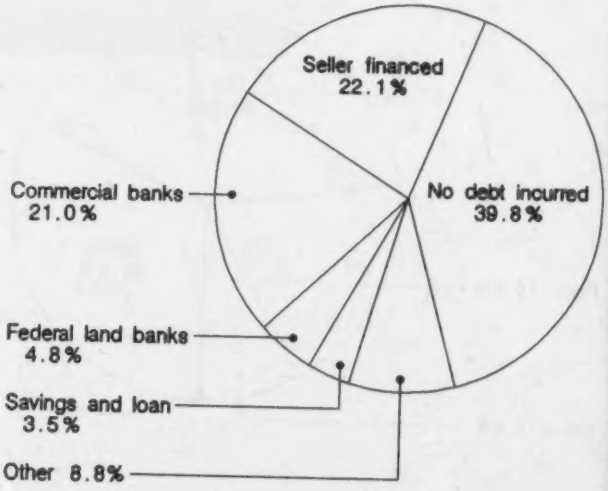


Chart 51
Method of agricultural land transfers, 1987



Arms' length sale is voluntary sale to nonrelatives.

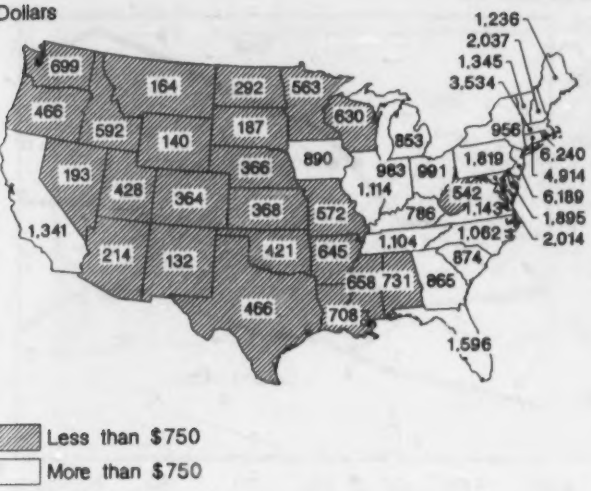
Chart 52
Sources of financing agricultural land transfers, 1987



Land Values

Changes in average land values during 1982-88 ranged from a 28-percent increase in the Northeast to a 48-percent decrease in the Lake States. Cash rents for nonirrigated cropland averaged highest in the Corn Belt States, reflecting land earnings. Foreigners owned about 12.5 million acres of U.S. farm and timberland at the end of 1987, or about 0.5 percent of all U.S. land.

Chart 53
Land values per acre

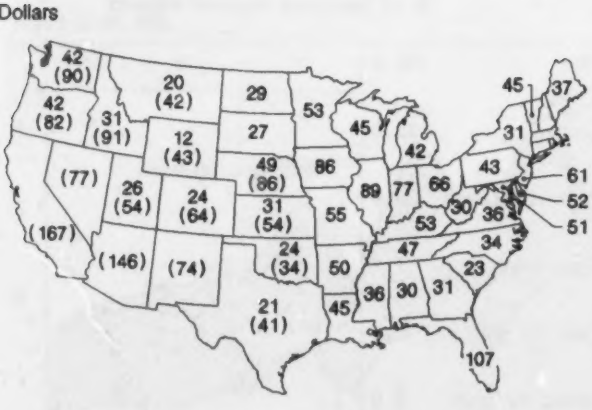


1988 data.

Chart 54
Percentage change in land values, 1982-88

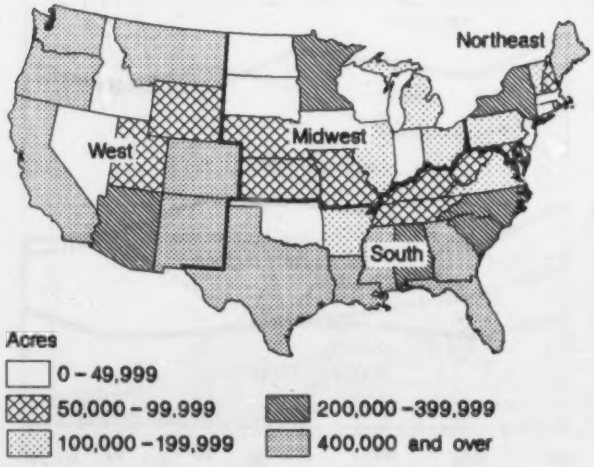
48-State average, -31 percent. Regional averages in parentheses.

Chart 55
Per acre cash rents for cropland



1988 data. Data not available for all States. Rents for irrigated land in parentheses.

Chart 56
Foreign ownership of agricultural land

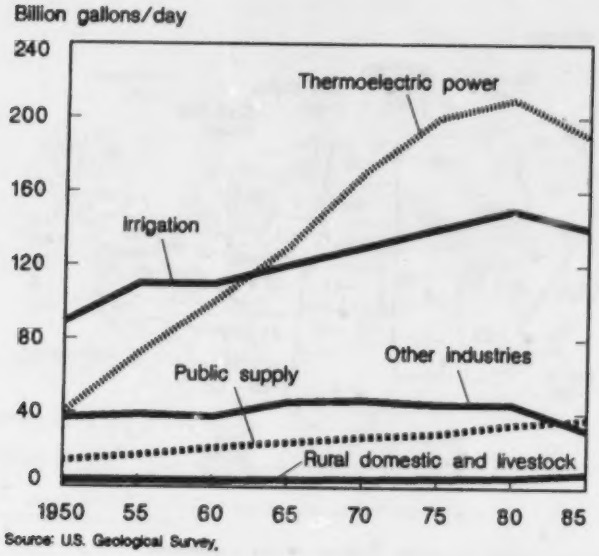


1987 data. Alaska, Guam, and Puerto Rico fall in the 0 - 49,999 category. Hawaii falls in the 50,000 - 99,999 category.

Irrigation

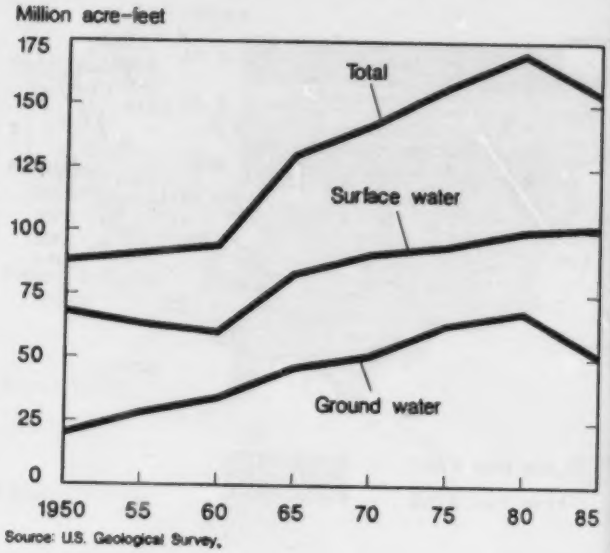
Total water withdrawals fell about 9 percent during 1980-85. Irrigation accounted for 34 percent of total water withdrawals in 1985. Total irrigation withdrawals fell 9 percent during 1980-85, the first decline since 1950. Irrigated acres by region vary annually due to changes in crop and input prices, commodity programs, climatic factors, and technology adoption.

Chart 57
Water withdrawals by use



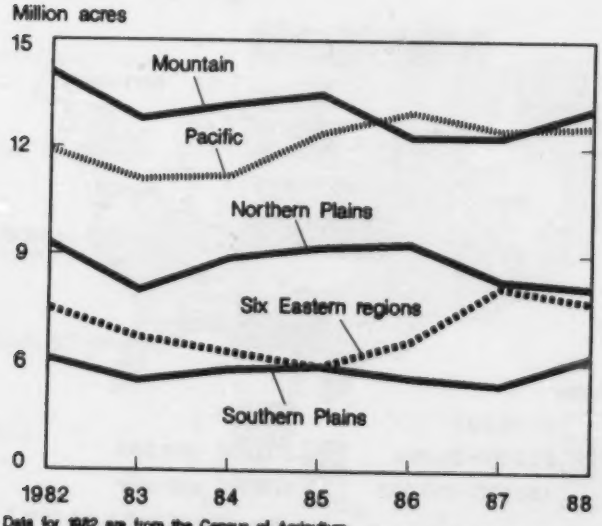
Source: U.S. Geological Survey.

Chart 58
Irrigation water withdrawals by source



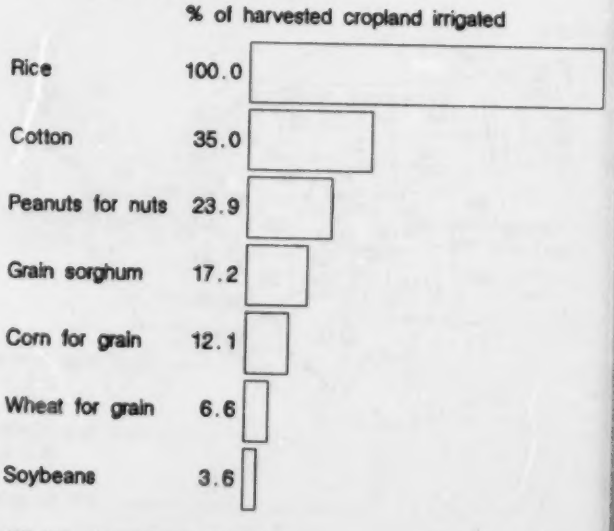
Source: U.S. Geological Survey.

Chart 59
Irrigated acres by production region



Data for 1982 are from the Census of Agriculture.
Data for 1983-88 are ERS-USDA estimates.

Chart 60
Percentage of harvested cropland irrigated for major program crops

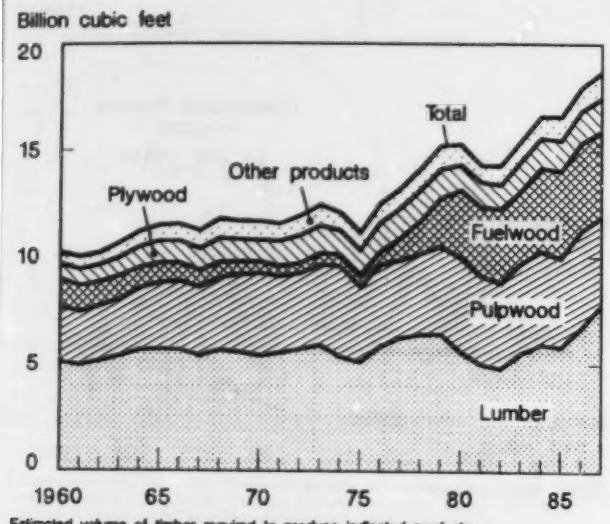


1982 data. Source: Census of Agriculture.

Timber Products

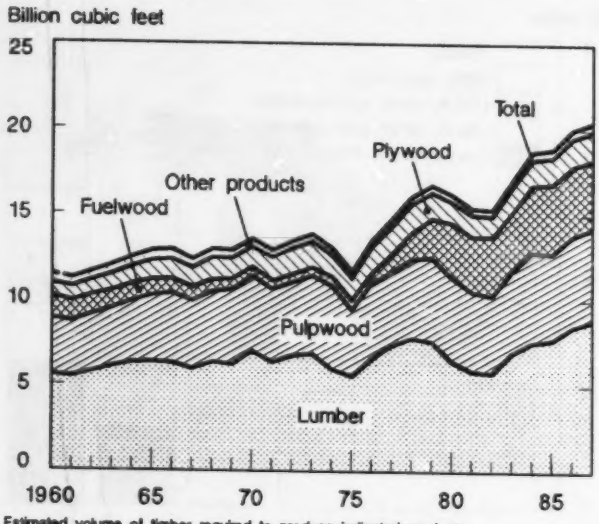
Total U.S. production, consumption, and trade of timber products in 1987 have continued their trend of rising steadily over the last 25 years. Imports supplied a little over 22 percent of total consumption in 1987; about 14 percent of total production was exported.

Chart 61
Timber products production



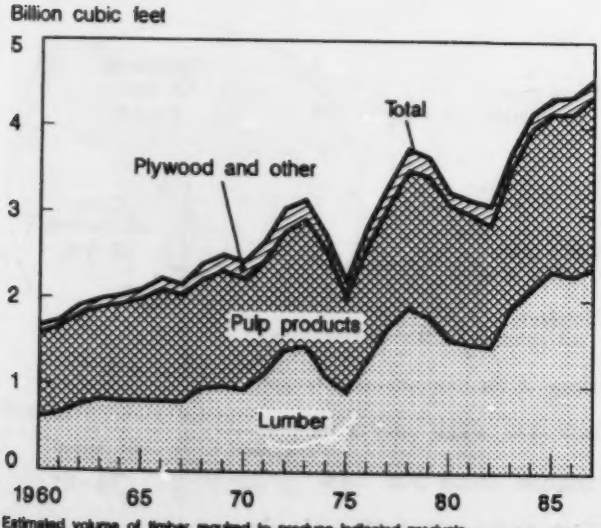
Estimated volume of timber required to produce indicated products.
Source: Based on Bureau of the Census data.

Chart 62
Timber products consumption



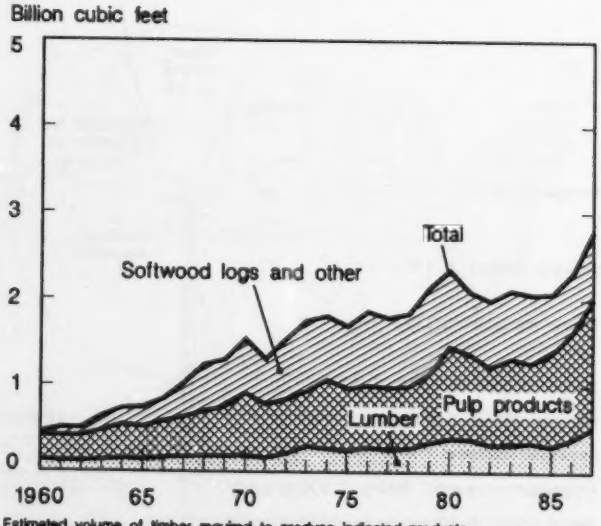
Estimated volume of timber required to produce indicated products.
Source: Based on Bureau of the Census data.

Chart 63
Timber products imports



Estimated volume of timber required to produce indicated products.
Source: Based on Bureau of the Census data.

Chart 64
Timber products exports



Estimated volume of timber required to produce indicated products.
Source: Based on Bureau of the Census data.

Conservation

Total public and private expenditures for land and water conservation reached about $3.8 billion in 1988, with a major share of the increase due to expansion of the Conservation Reserve Program (CRP). Expenditures for the CRP accounted for 70 percent of total soil conservation expenditures.

Chart 65
U.S. land and water conservation expenditures

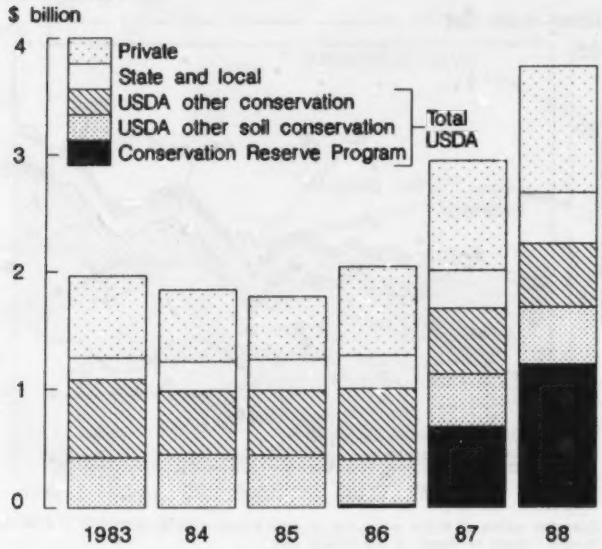
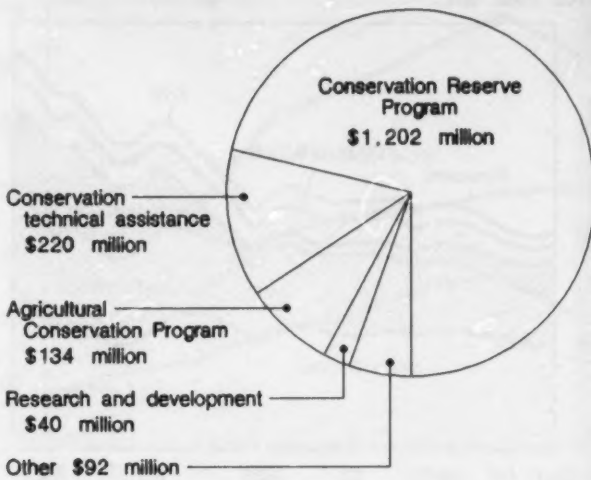


Chart 66
USDA soil conservation programs and expenditures, 1988



Total soil conservation expenditures: $1,688 million

Chart 67
Share of offsite damage from agricultural erosion, 1982

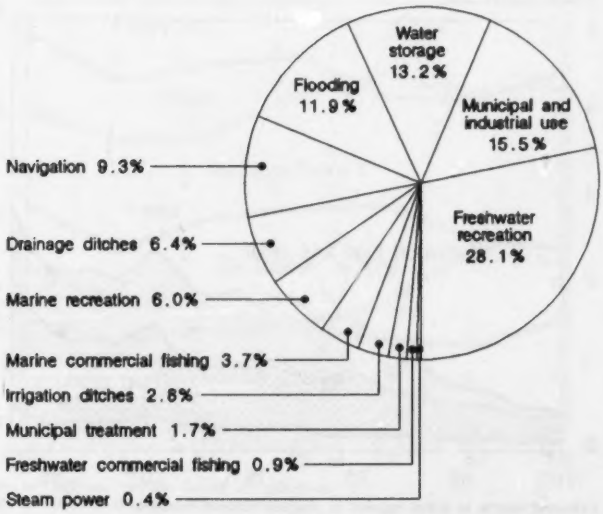
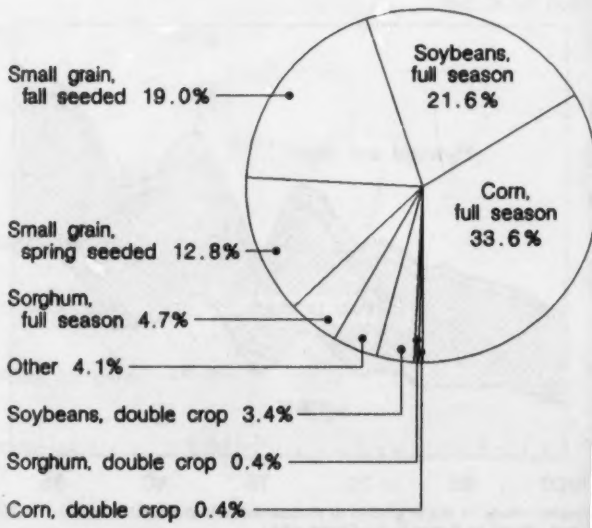


Chart 68
Total acres planted with conservation tillage by crop, 1987

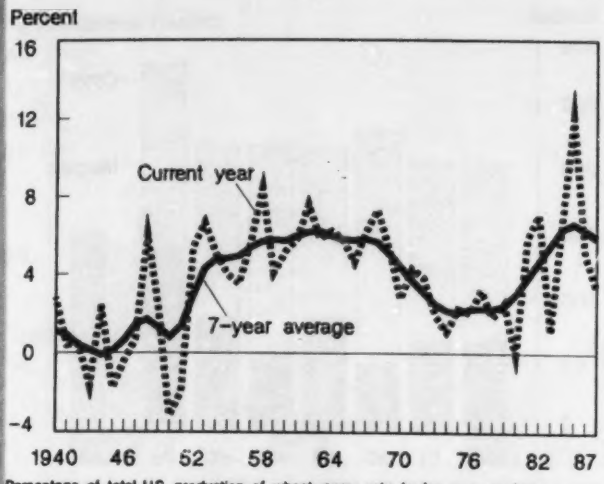

Small grain, fall seeded 19.0%
Soybeans, full season 21.6%
Corn, full season 33.6%
Small grain, spring seeded 12.8%
Sorghum, full season 4.7%
Other 4.1%
Soybeans, double crop 3.4%
Sorghum, double crop 0.4%
Corn, double crop 0.4%

Conservation

Excess capacity in American agriculture continued to fall in 1987 from its 48-year high in 1985. Continuing high export levels and uncertain weather conditions are likely to extend this decline in the near future.

Chart 69

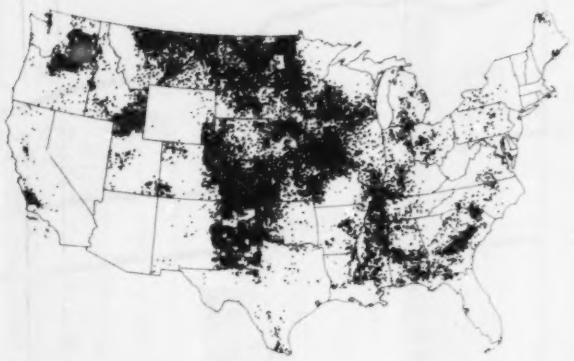
Excess production capacity in 12 commodities



Percentage of total U.S. production of wheat, corn, oats, barley, rye, sorghum, cotton, soybeans, rice, tobacco, peanuts, and dairy products. Excess production capacity is the difference between potential output and commercial demand at prevailing farm prices.

Chart 70

Total acreage enrolled in the Conservation Reserve Program as of February 1988



One dot equals 1,000 acres. Total enrollment through the sixth signup.

Chart 71

Conservation reserve acreage as a percentage of eligible cropland

1988 data.

Chart 72

Average annual per acre rental payment of conservation reserve lands by State

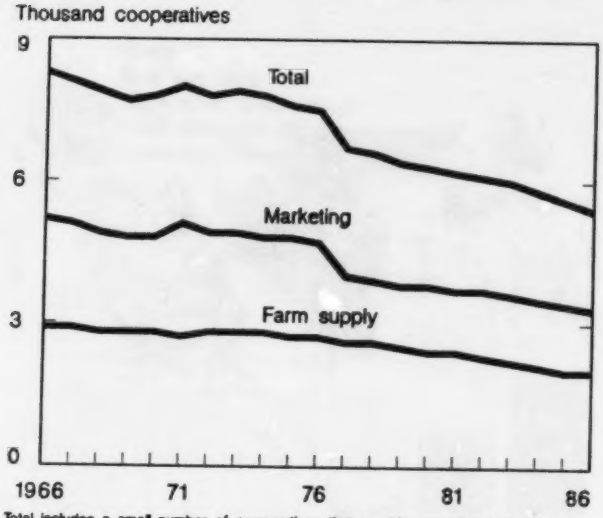
1988 data.

Farmer Cooperatives

The decrease in number of U.S. farmer cooperatives in 1986 reflects a continuing trend involving merger, consolidation, acquisition, and dissolution. The long-term decline in memberships reflects in part the decreasing number of U.S. farms and farmers. Farmer cooperative assets also dropped in 1986 by 4.6 percent.

Chart 73

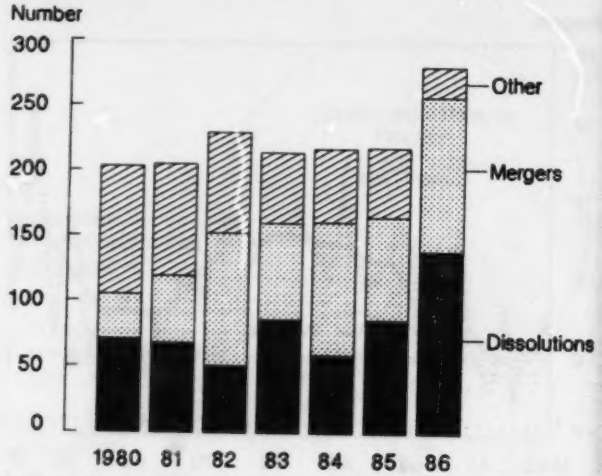
Farmer cooperatives in the United States



Total includes a small number of cooperatives that provide specialized related services.

Chart 74

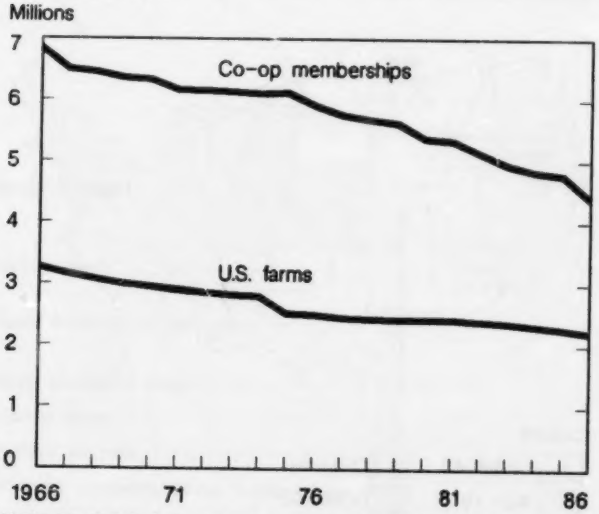
Mergers and dissolutions of U.S. farmer cooperatives



Based on a list of all U.S. farmer cooperatives maintained by the Agricultural Cooperative Service. Mergers also include acquisitions and consolidations. Other includes cooperatives dropped due to inactivity, reassignment, and miscellaneous reasons.

Chart 75

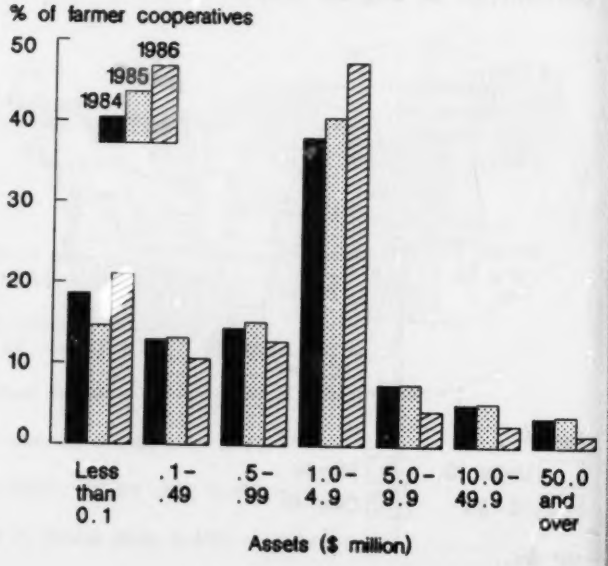
U.S. farms and farmer cooperative memberships



Memberships include duplication that cannot be eliminated using current reporting methods.

Chart 76

Distribution of farmer cooperatives by size of assets

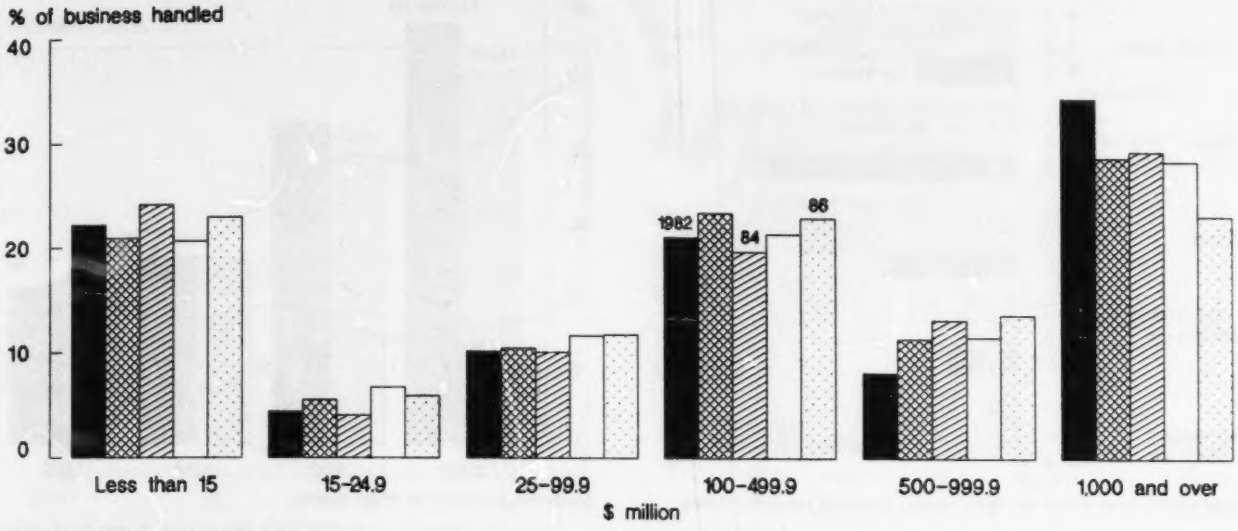


Farmer Cooperatives

Value of farm products marketed and supplies handled by farmer cooperatives dropped 12.2 and 9.3 percent in 1987. The 22 co-ops with business of $500 million or more accounted for a greater percentage (36.7 percent) of total gross dollar volume than the 4,919 co-ops with business of less than $15 million (22.9 percent).

Chart 77

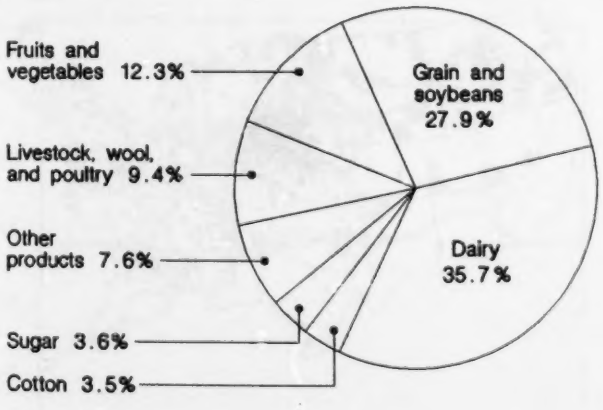
Distribution of farmer cooperative business by size of cooperative



Size of cooperative based on gross sales.

Chart 78

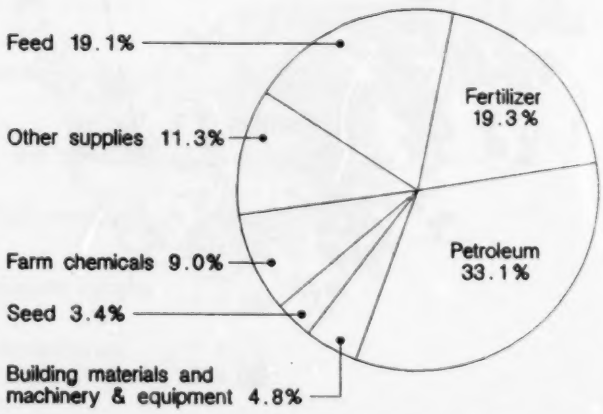
Farm products marketed by farmer cooperatives



1986 data. Total net marketing business = $41.5 billion. Other products include nuts, rice, tobacco, and miscellaneous products.

Chart 79

Farm supplies handled by farmer cooperatives

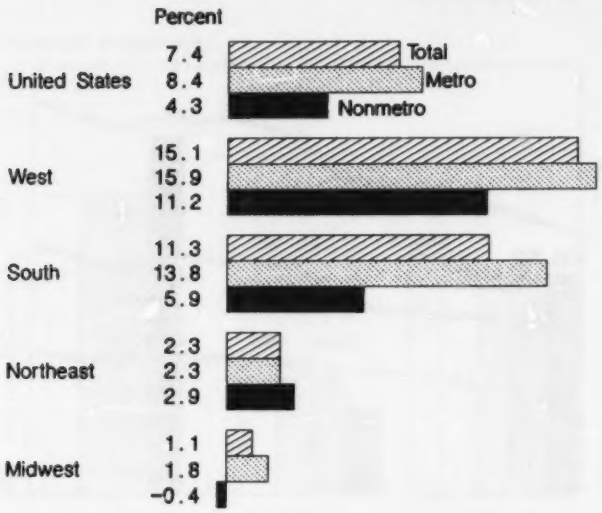


1986 data. Total net farm supply business = $15.1 billion. Other supplies include containers, meats and groceries, and miscellaneous farm supplies.

Population

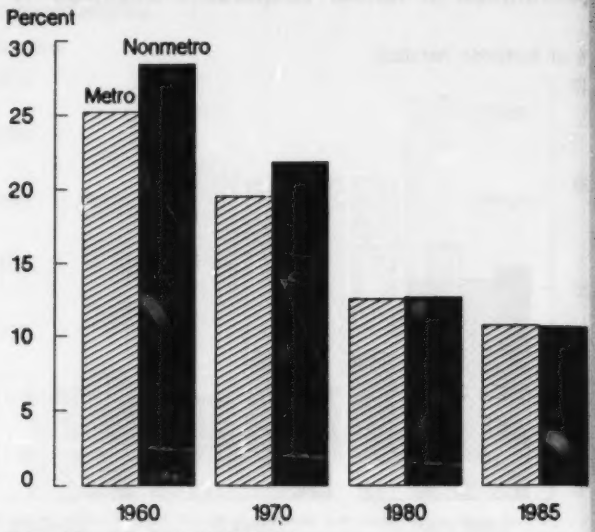
Population decline in nonmetro counties worsened during the mid-1980's in the Midwest and spreading into the western South Central and northern Mountain States. Infant mortality has decreased over the last 25 years, with nonmetro rates improving so rapidly that no difference remains between metro and nonmetro areas.

Chart 80
Regional population growth, 1980-87



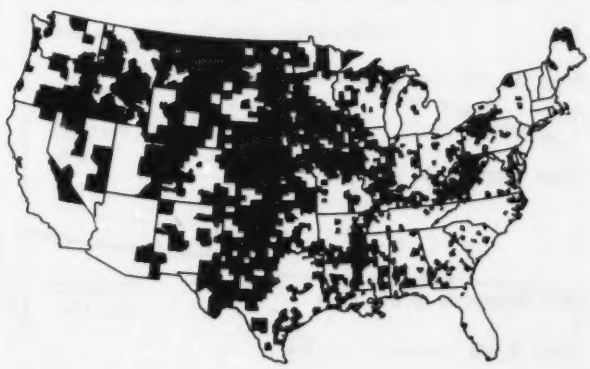
West and U.S. totals include Alaska and Hawaii. Source: Bureau of the Census.

Chart 81
Infant mortality rates



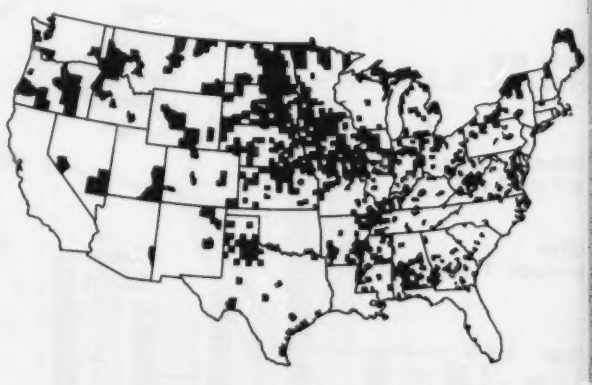
Source: National Center for Health Statistics.

Chart 82
Nonmetro counties with population decline, 1983-87



Source: Bureau of the Census.

Chart 83
Nonmetro counties with population decline, 1980-83

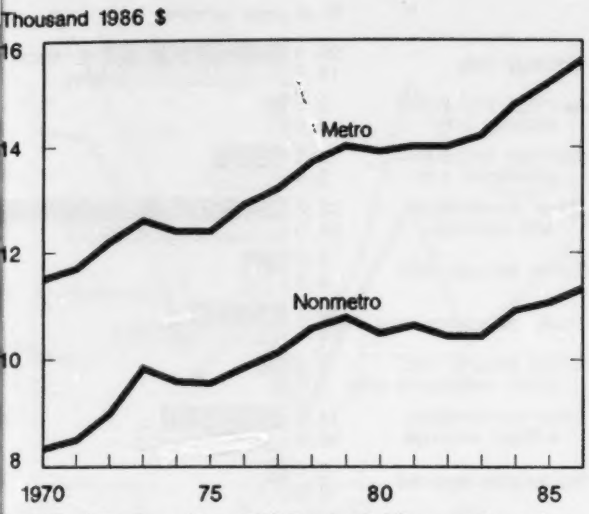


Source: Bureau of the Census.

Income

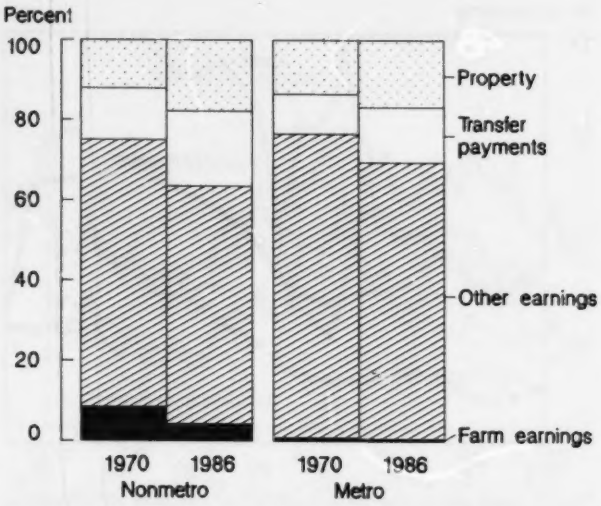
Metro residents consistently have higher income than nonmetro residents. Transfers grew faster than earnings during 1970-86. Social security, medicare/medicaid, and other retirement/disability programs account for over 80 percent of government transfers to metro and nonmetro residents.

Chart 84
Trends in per capita income



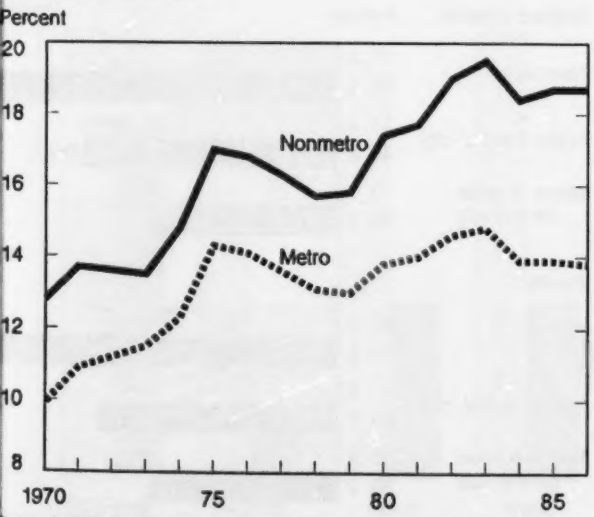
Source: Local Area Personal Income, U.S. Department of Commerce, Bureau of Economic Analysis.

Chart 85
Personal income by source



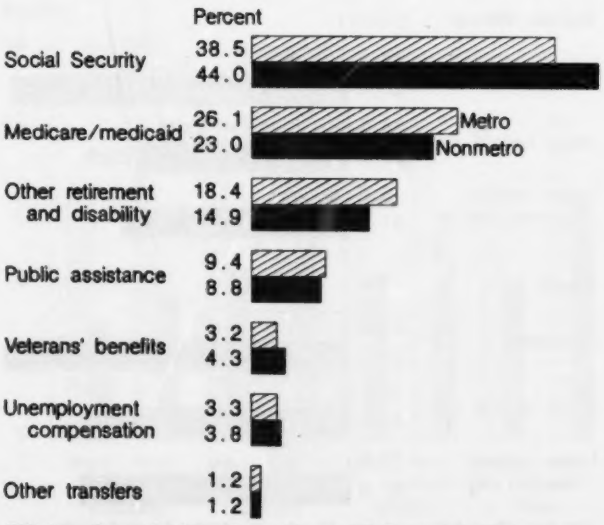
Source: Local Area Personal Income, U.S. Department of Commerce, Bureau of Economic Analysis.

Chart 86
Transfer payments as percentage of total personal income



Source: Local Area Personal Income, U.S. Department of Commerce, Bureau of Economic Analysis.

Chart 87
Government transfer payments to individuals

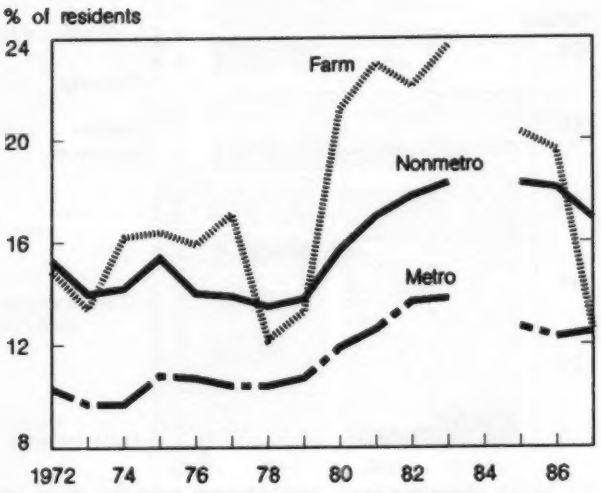


1986 data. Source: Local Area Personal Income, U.S. Department of Commerce, Bureau of Economic Analysis.

Poverty

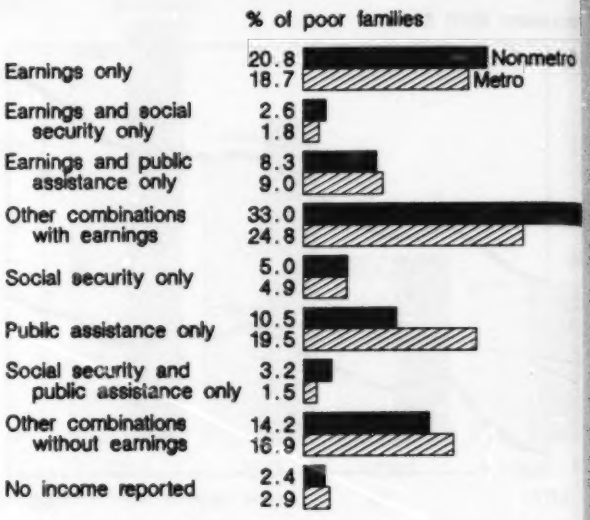
The poverty rate is higher in nonmetro than metro areas. Farm poverty was very high in the early 1980's, but has declined since then. Most poor families work for at least part of their income. Elderly blacks and young black children living in nonmetro areas have very high poverty rates.

Chart 88
Poverty rates



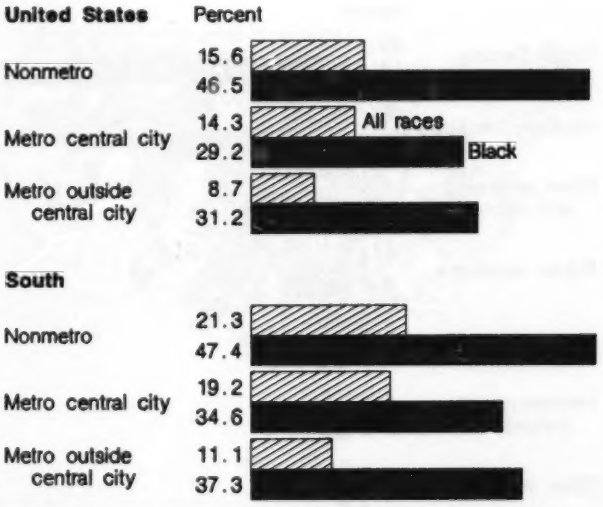
The farm poverty rate is proportion of all residents living on farms who are poor. Data for 1984 not available. Source: Current Population Survey, Bureau of the Census.

Chart 89
Poor families by sources of income


% of poor families
Nonmetro
Metro
Earnings only 20.8 18.7
Earnings and social security only 2.6 1.8
Earnings and public assistance only 8.3 9.0
Other combinations with earnings 33.0 24.8
Social security only 5.0 4.9
Public assistance only 10.5 19.5
Social security and public assistance only 3.2 1.5
Other combinations without earnings 14.2 16.9
No income reported 2.4 2.9

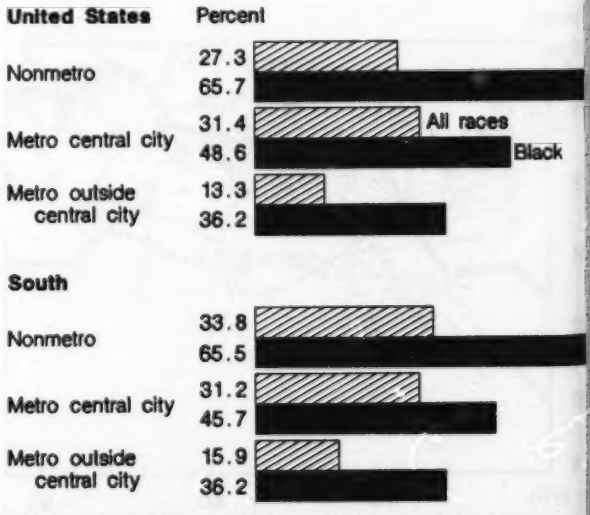
1987 data. Source: Current Population Survey, Bureau of the Census.

Chart 90
Percentage of the elderly in poverty



1987 data. The elderly are persons 65 and over. Source: Current Population Survey, Bureau of the Census.

Chart 91
Percentage of young children in poverty

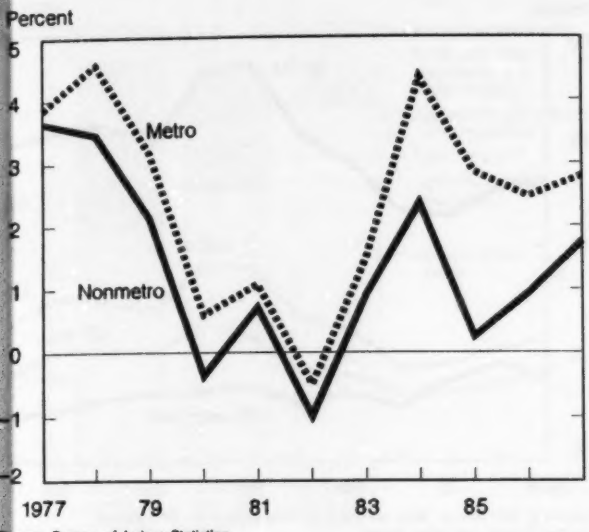


1987 data. Young children are under 6 and live in families. Source: Current Population Survey, Bureau of the Census.

Employment

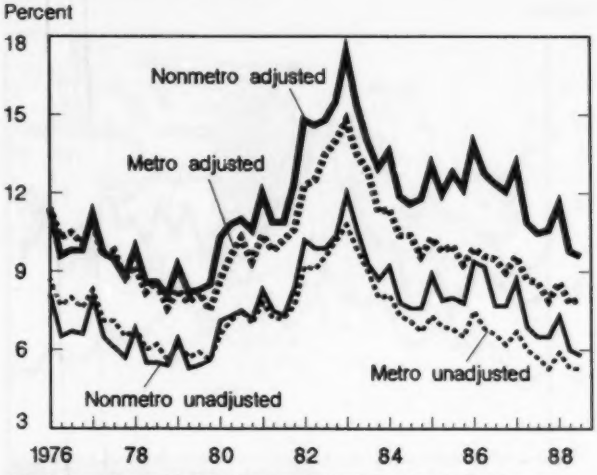
Nonmetro economies outside the Northeast had lower growth and higher unemployment than metro areas during 1984-87. These areas have not fully recovered from the early 1980's recession, but 1987 unemployment data show that conditions have improved.

Chart 92
Employment change from previous year



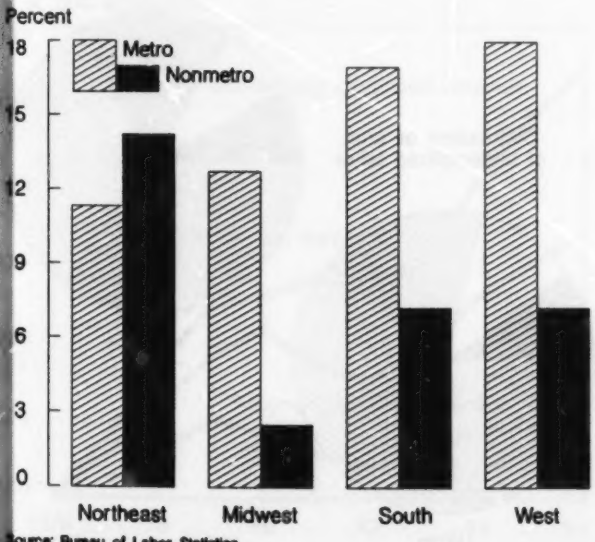
Source: Bureau of Labor Statistics.

Chart 93
Unemployment rates for metro and nonmetro areas



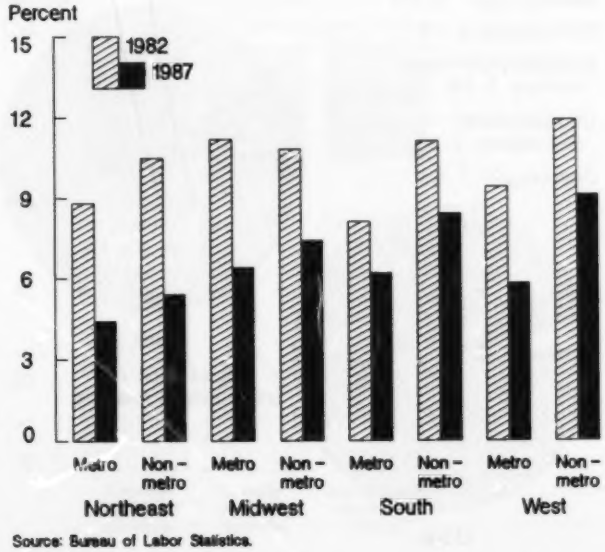
Adjusted unemployment includes those unemployed, those not looking for work because jobs are unavailable, and half those working part-time because full time jobs are unavailable. Beginning third quarter 1985, CPS metro/nonmetro definition based on 1980 Census. Source: Current Population Survey.

Chart 94
Employment growth by region, 1982-87



Source: Bureau of Labor Statistics.

Chart 95
Unemployment by region

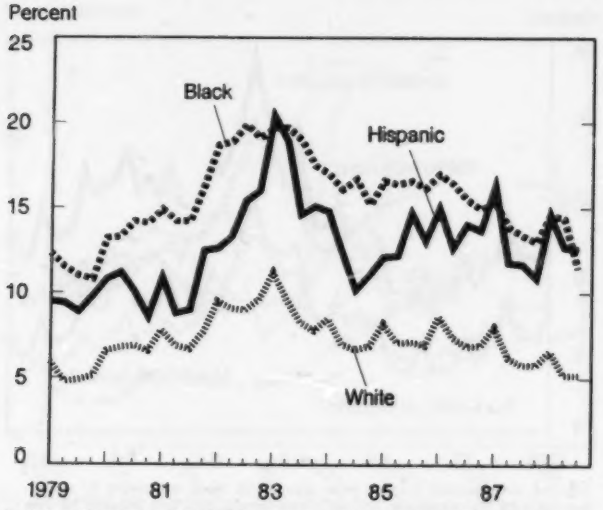


Source: Bureau of Labor Statistics.

Employment

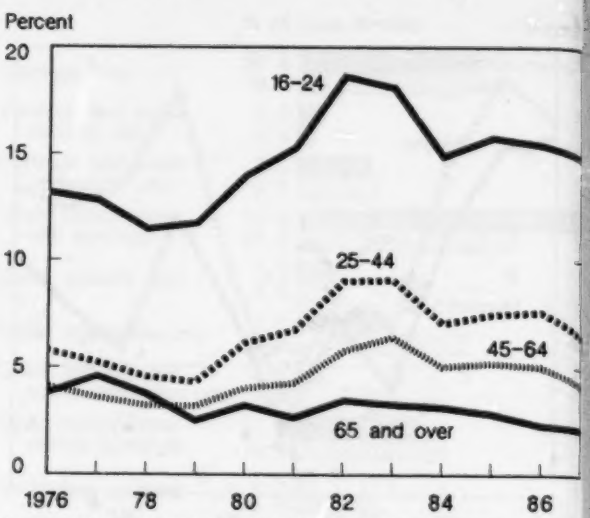
Overall nonmetro employment has improved, but unemployment remains high for minorities and youth. A larger proportion of nonmetro than metro workers are underutilized. The relative cost in foregone wages to the working poor is higher in nonmetro than in metro areas.

Chart 96
Nonmetro unemployment by race/ethnicity



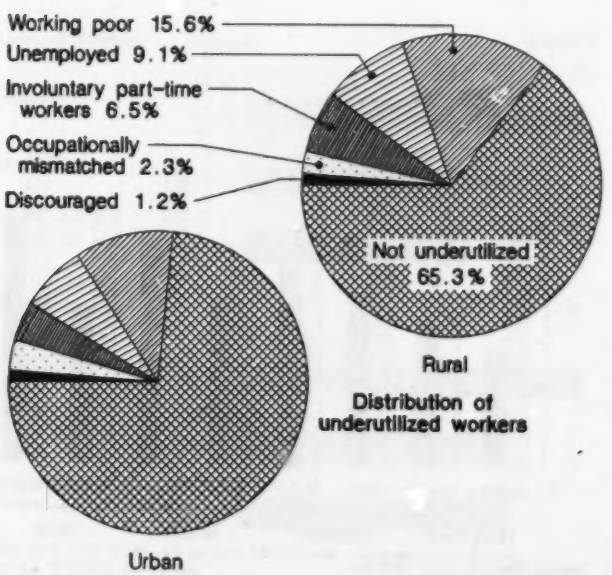
Beginning third quarter 1985, CPS nonmetro definition based on 1980 census.
Source: Current Population Survey.

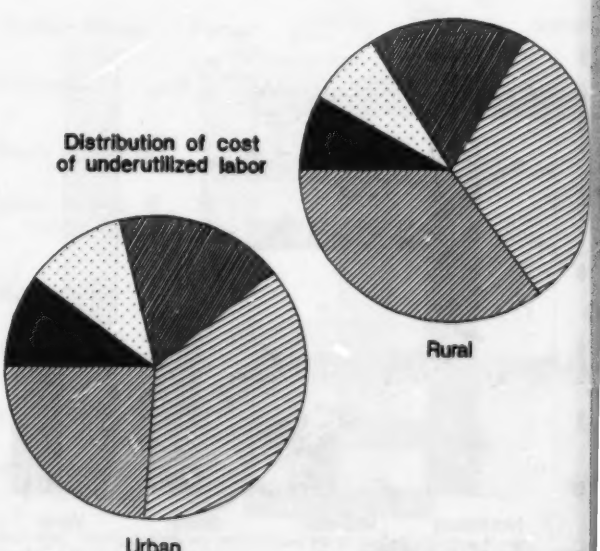
Chart 97
Nonmetro unemployment by age



Beginning third quarter 1985, nonmetro definition based on 1980 census.
Source: Current Population Survey.

Chart 98
Labor underutilization





Employment

There are 514 farming-dependent counties where farming contributed at least 20 percent of the county's labor and proprietor income in 1980-84, and 540 farming-important counties where farming contributed 10-19 percent of the county's labor and proprietor income. Growth of total employment in farming-dependent counties is slower since 1976 than in other county types.

Chart 99
Distribution of agriculture-related employment, 1985

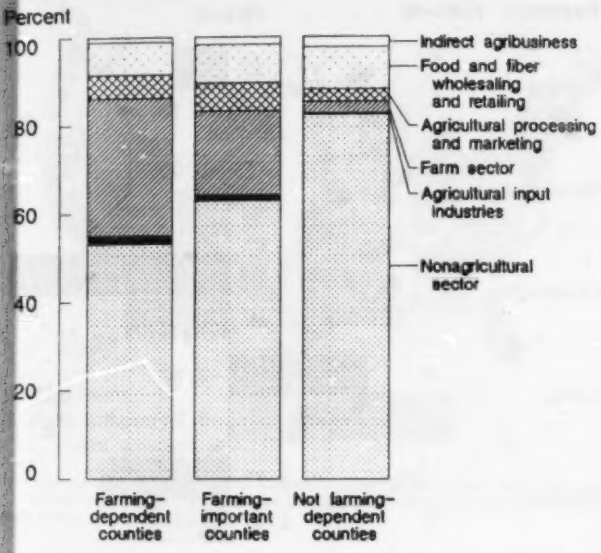


Chart 100
Local dependence on farming, 1980-84

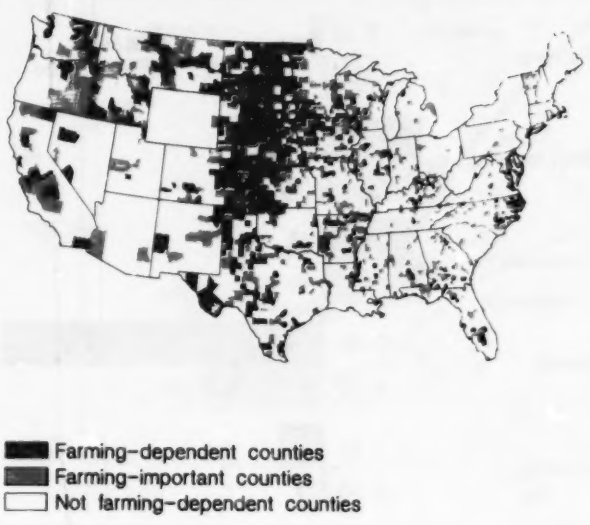


Chart 101
Employment growth by farm dependency

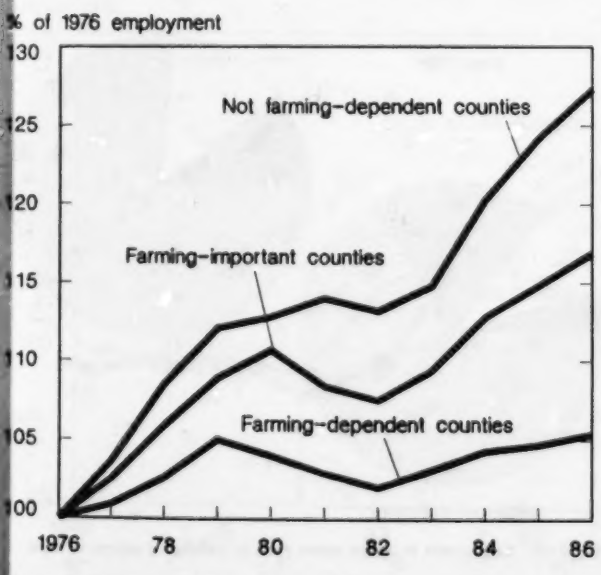
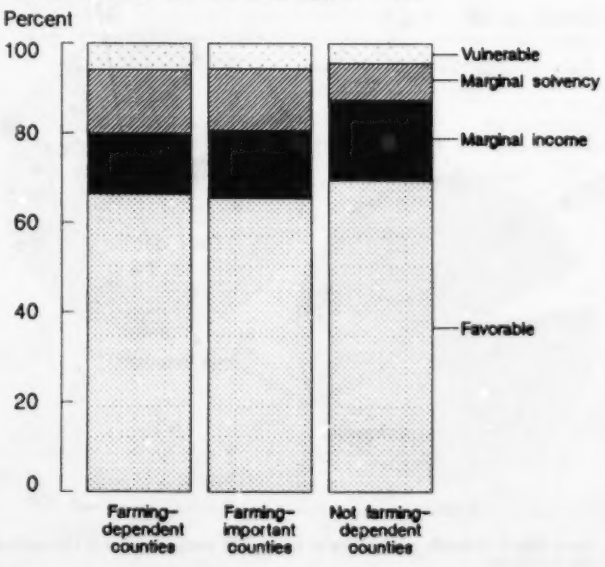


Chart 102
Economic positions of farm operator households, by county type, 1987



Farming-dependent counties are those where farming generated at least 20% of the county's total earnings. Farming-important counties are those where farming generated 10-19% of the county's total earnings. Not farming-dependent counties are those where farming generated less than 10% of the county's total earnings.

Employment

Except for manufacturing, nonmetro industries rebound less than metro industries during economic recovery. Proportionally fewer nonmetro than metro counties have steady employment growth; more have steady decline.

Chart 103
Industry changes in employment

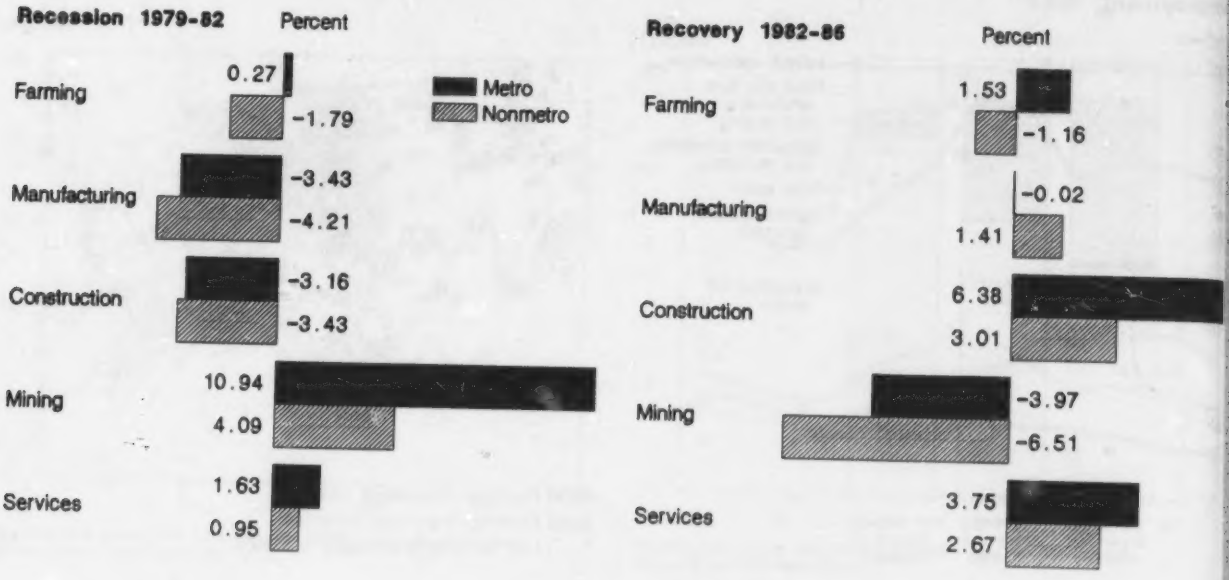
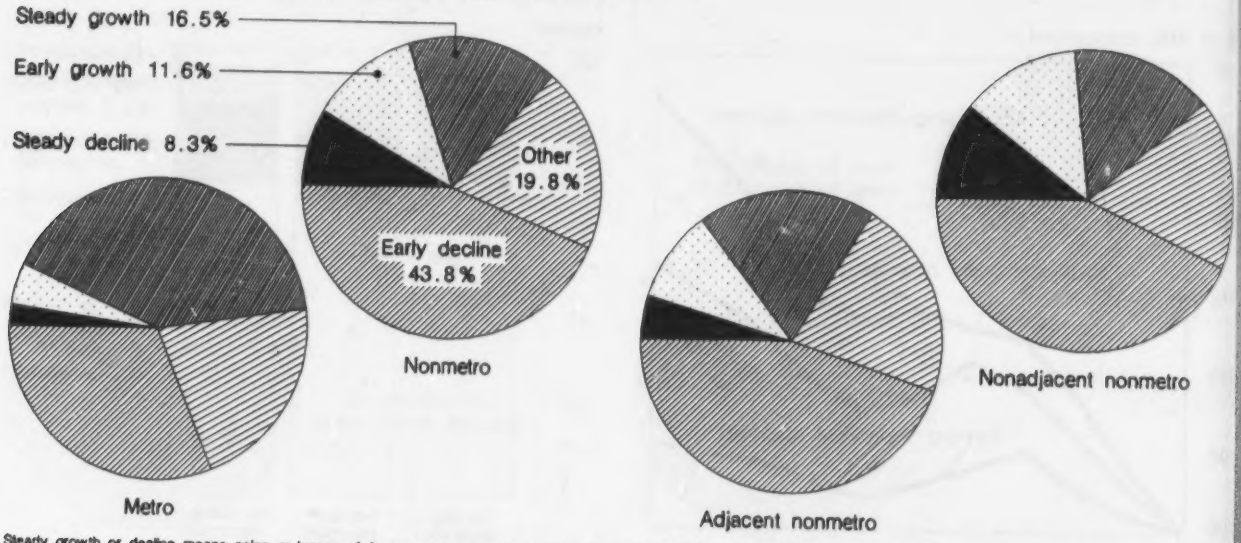


Chart 104
Distribution of counties by employment growth patterns



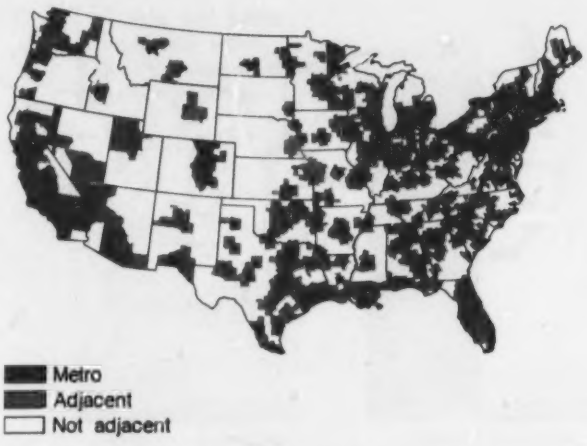
Steady growth or decline means gains or losses of 2 percent or more in both 1979–82 and 1982–86. Early growth or decline means gains or losses of 2 percent or more only in 1979–82.

Employment

Employment growth was hurt more by the recession and helped less by the recovery in nonmetro than in metro areas. Rural nonmetro counties recover more quickly but less completely than urbanized nonmetro counties. Recession and recovery affect nonmetro counties adjacent to metro areas more than nonadjacent counties.

Chart 105

Nonmetro counties by metro adjacency, 1983



Adjacent counties are physically adjacent to a metropolitan county and must have at least 2 percent of their employed labor force commuting to metropolitan central counties.

Chart 106

Metro and nonmetro employment change since 1979

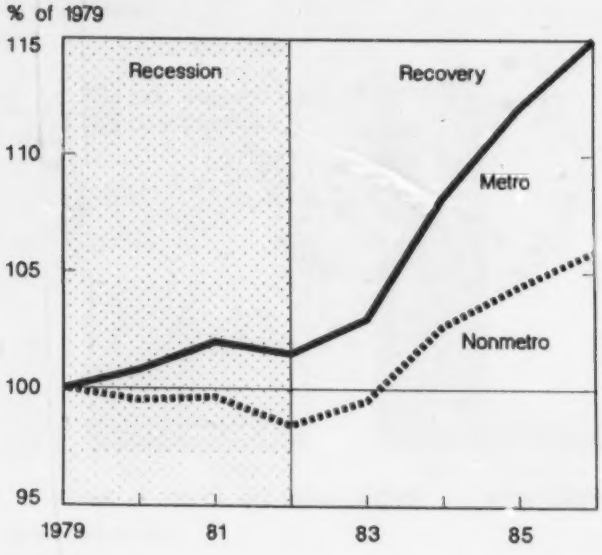


Chart 107

Nonmetro employment change since 1979 by level of urbanization in nonmetro counties

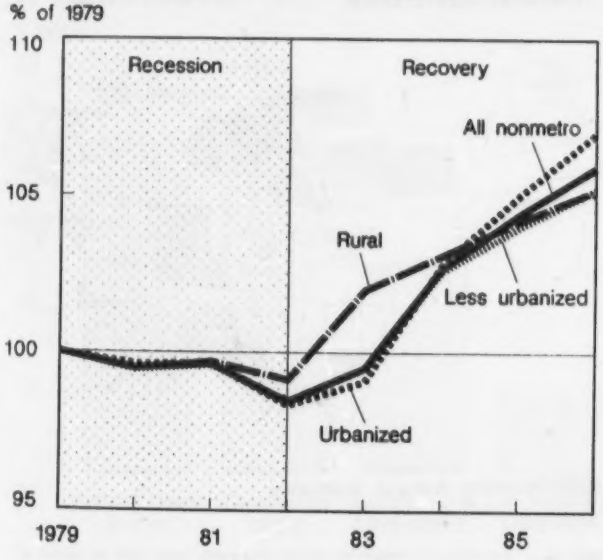
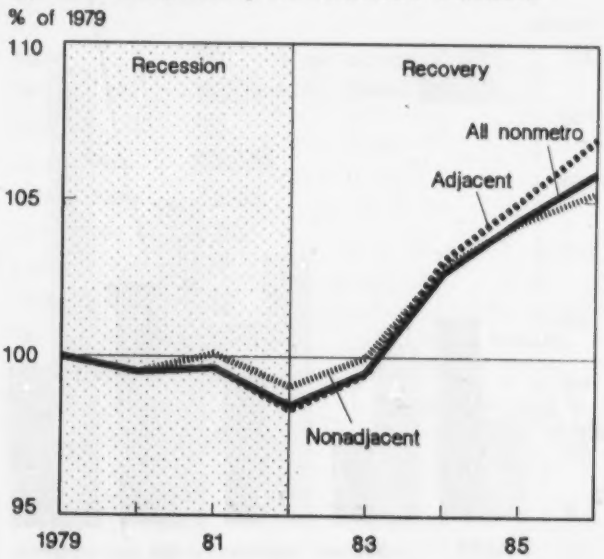


Chart 108

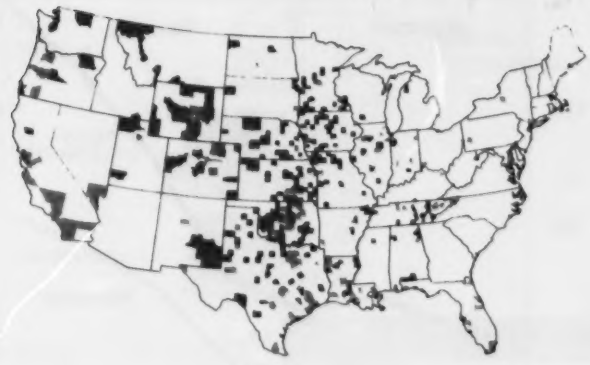
Nonmetro employment change since 1979 by metro adjacency of nonmetro counties



Banking

Commercial banks headquartered in rural areas outnumber urban-based banks but hold only 12 percent of all bank assets. About 31 percent of the savings and loans (S&L) are headquartered in rural areas and hold a little more than 9 percent of S&L industrial assets.

Chart 109
Commercial bank failures by county, 1983-87



Metro Nonmetro

Chart 110
Savings and loan failures by county, 1983-87

Metro Nonmetro

Chart 111
Financial institution failures

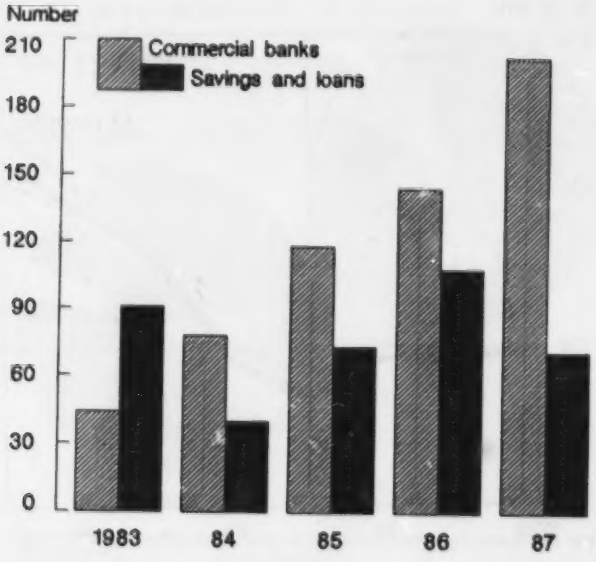


Chart 112
Farm credit banks receiving Federal financial assistance

Receiving financial assistance

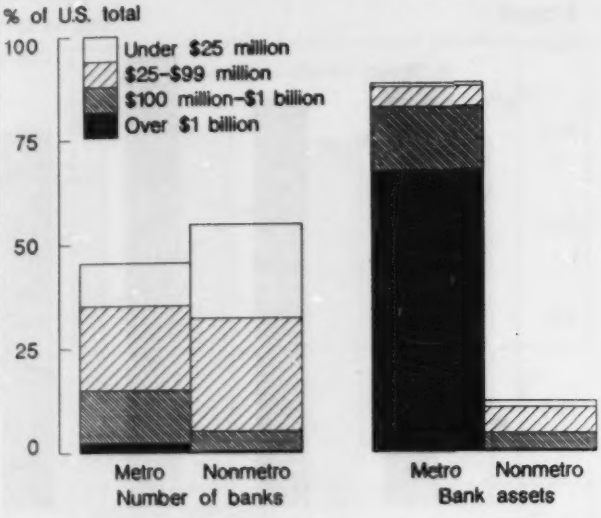
1988 data.

Banking

Commercial bank failures during 1983-87 were concentrated in the Midwest, while S&L failures were spread more evenly across the country. Four of the 12 farm credit districts received assistance in 1988. The Federal Land Bank of Jackson was closed, the first closure of a Federal land bank since their creation in 1917.

Chart 113

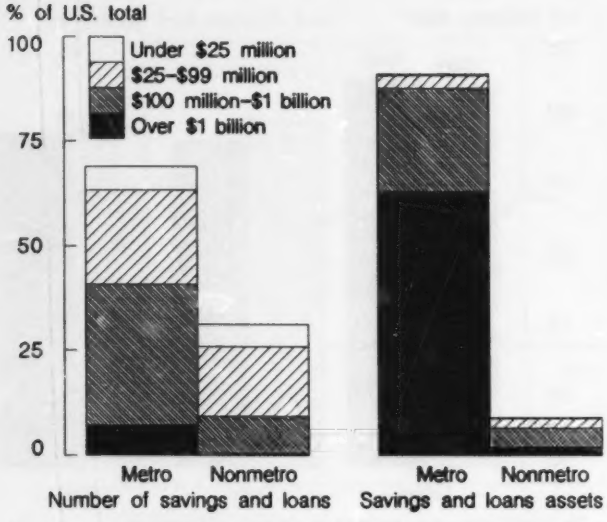
Nonmetro/metro banks and bank assets by size



December 31, 1987 data. U.S. commercial banks.

Chart 114

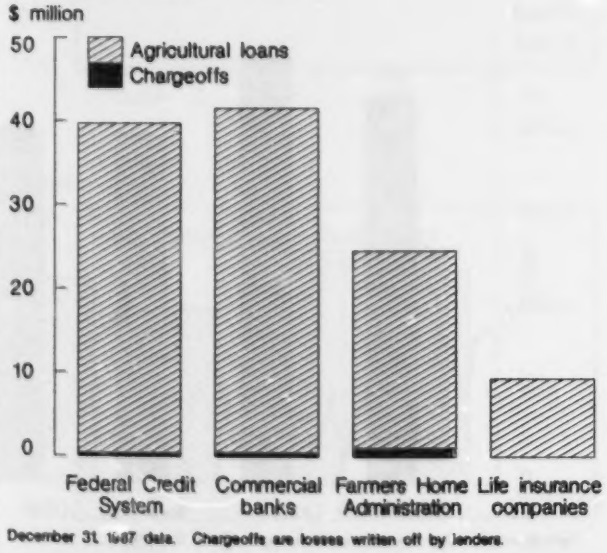
Nonmetro/metro savings and loans assets by size



December 31, 1987 data.

Chart 115

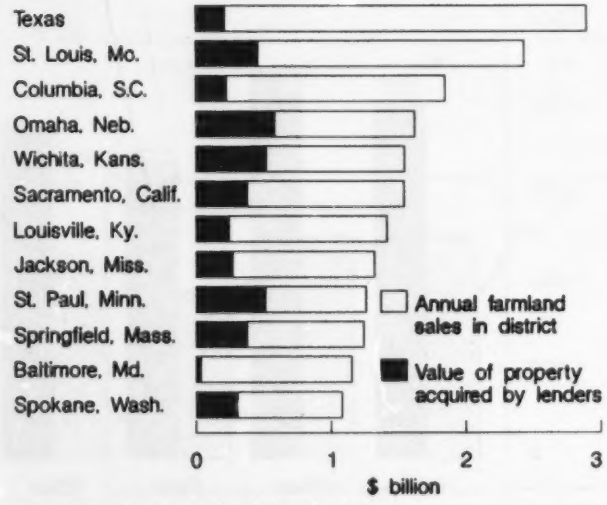
Agricultural loan volume and chargeoffs by major lenders



December 31, 1987 data. Chargeoffs are losses written off by lenders.

Chart 116

Lender-acquired property as a percentage of total farmland sales



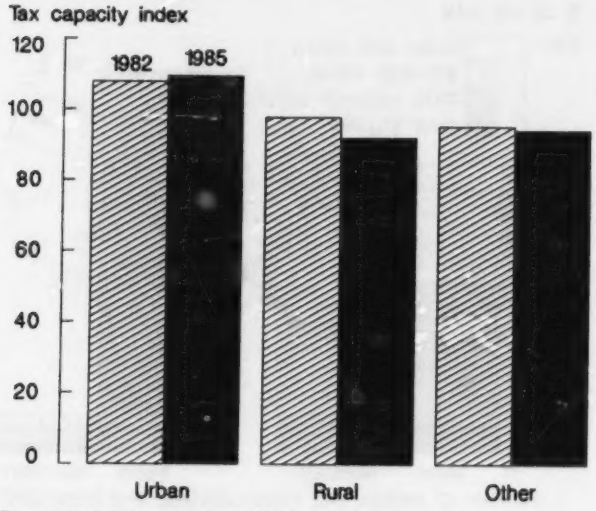
Winter 1986 sales. Lenders include Farm Credit System.

Local Government

Rapid growth in education expenditures shows the emphasis States put on primary and secondary education during the 1980's. Although State aid to local governments for education in rural States grew faster than the national average, the absolute dollar gap in education spending widened. Gap between urban and rural abilities to raise taxes (tax capacity) rose from 10 to 17 percent during 1982-85, reflecting rural economic difficulties.

Chart 117

State and local government tax capacity, by type of State



Tax capacity index as computed by the Advisory Commission on Intergovernmental Relations.

Chart 118

Federal aid to States and localities, by type of State

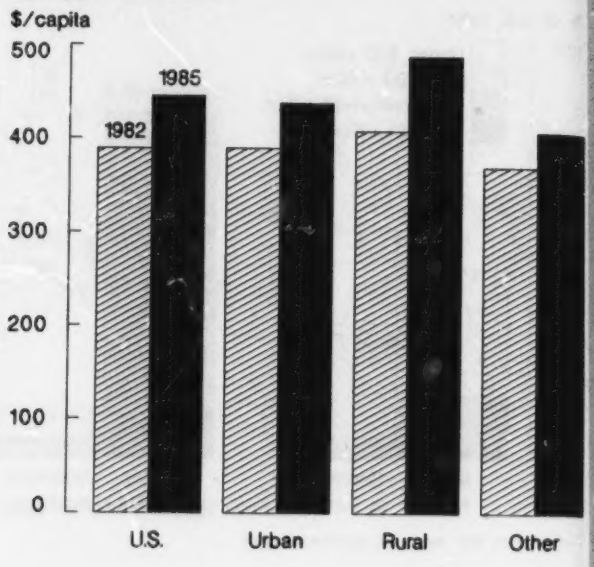
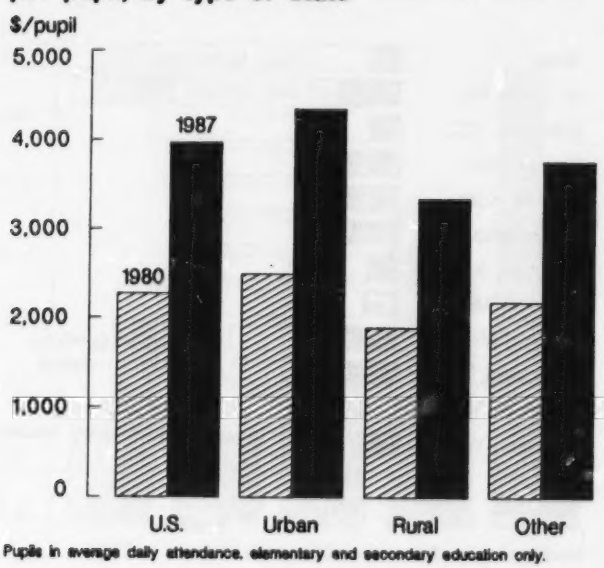


Chart 119

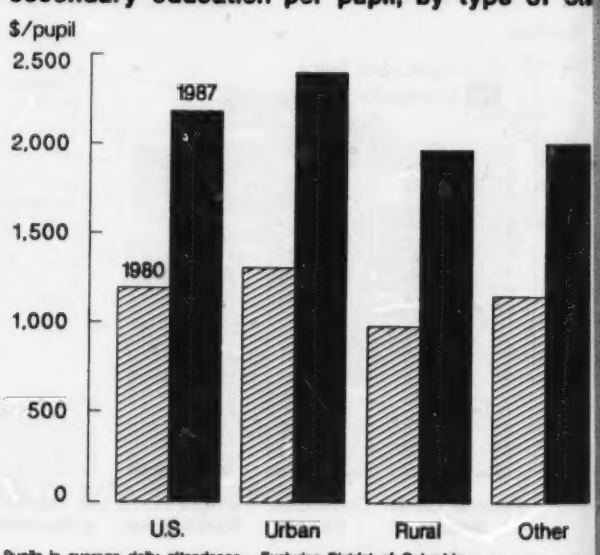
Local government expenditures for education per pupil, by type of State



Pupils in average daily attendance, elementary and secondary education only.

Chart 120

State aid to local government for primary and secondary education per pupil, by type of St



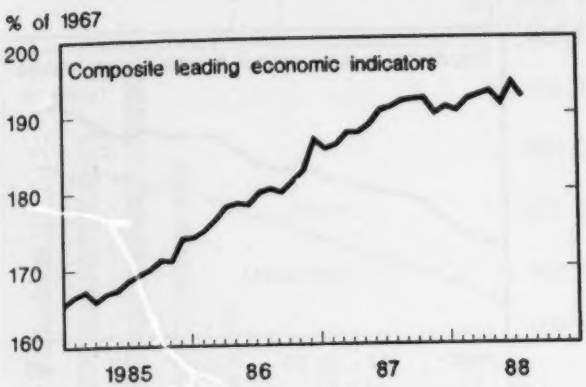
Pupils in average daily attendance. Excludes District of Columbia.

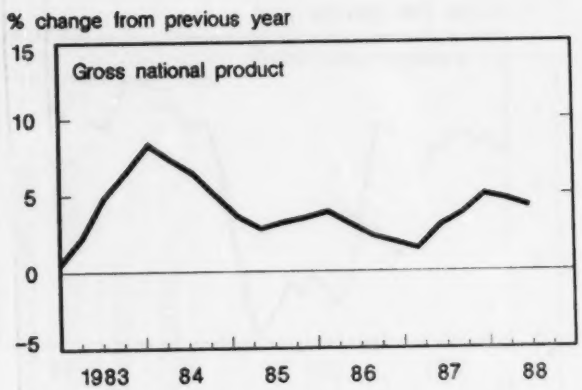
States are classified by percentage of 1980 population living in urban places within metropolitan areas. For details, see Elliott Dubin, Geographic Distribution of Federal Funds 1985, ERS, USDA, Staff Report AGES 89-7, February 1989.

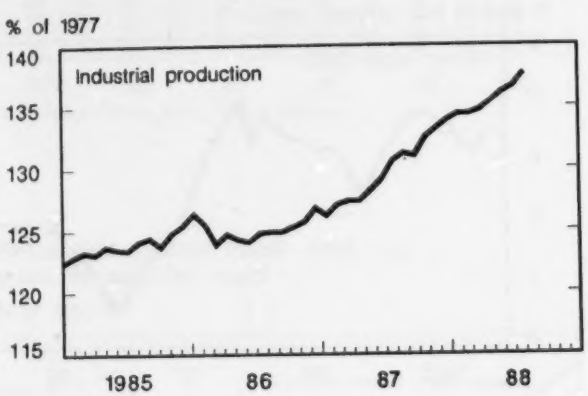
Economic Indicators

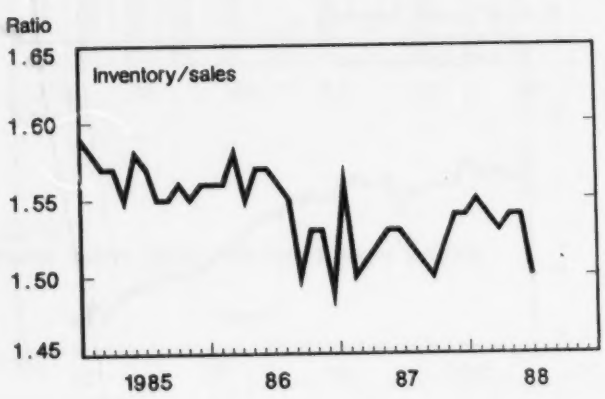
Real gross national product grew faster in 1988 than in the previous 3 years, led by fixed investment and exports.

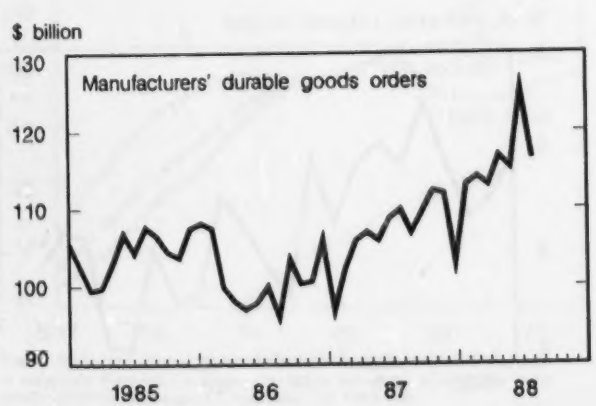
Chart 121
General economic indicators: Industry

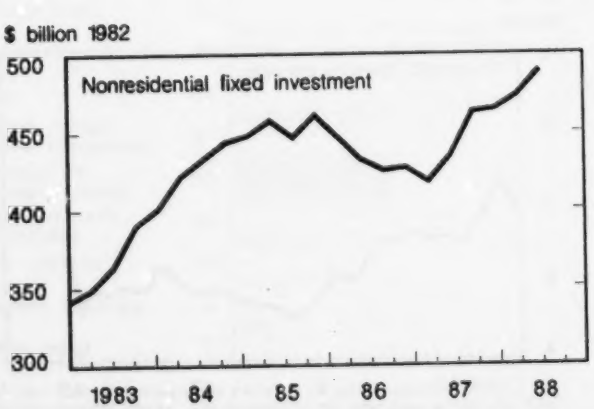










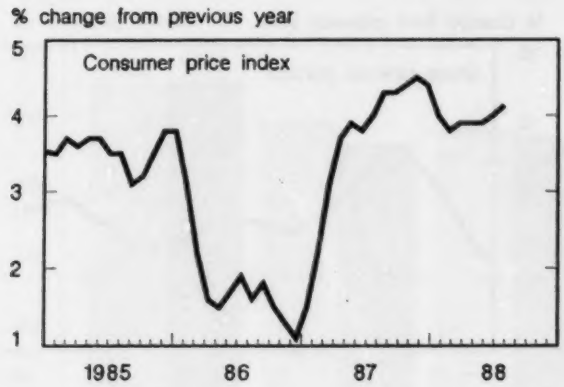


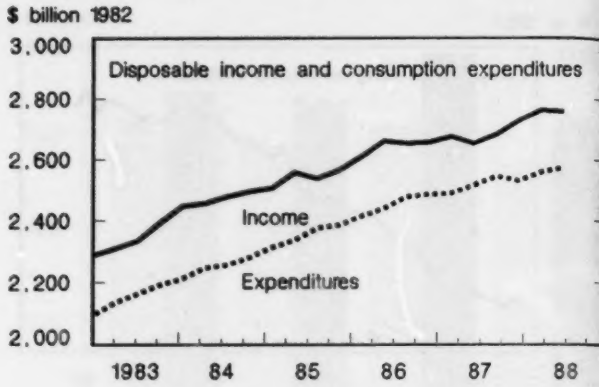
Economic Indicators

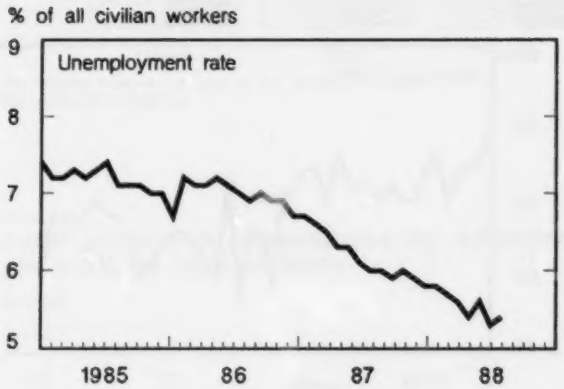
Inflation remained near its 1987 levels, despite continuing declines in the unemployment rate. Short-term interest rates increased and the savings rate rebounded.

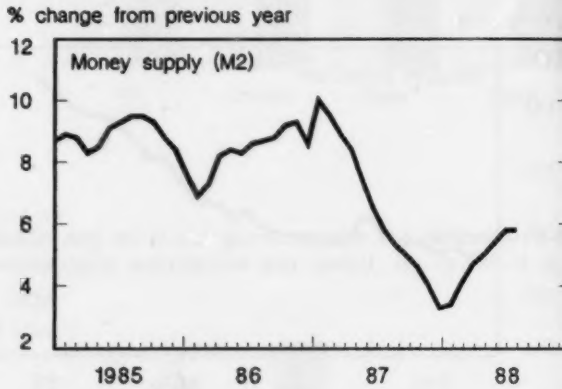
Chart 122

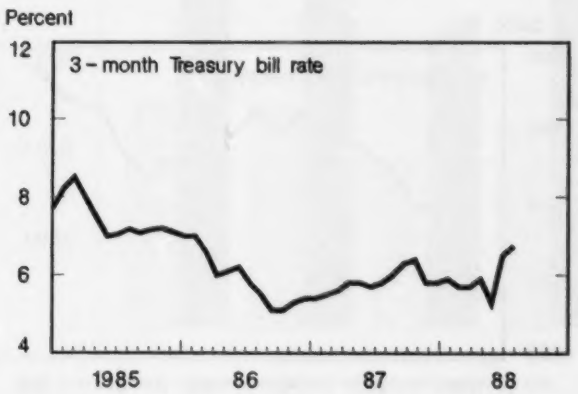
General economic indicators: Personal economy

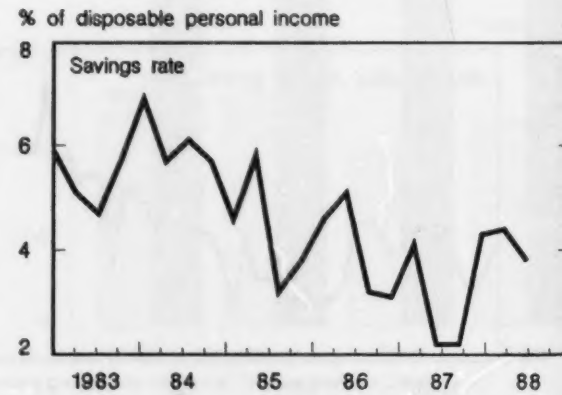








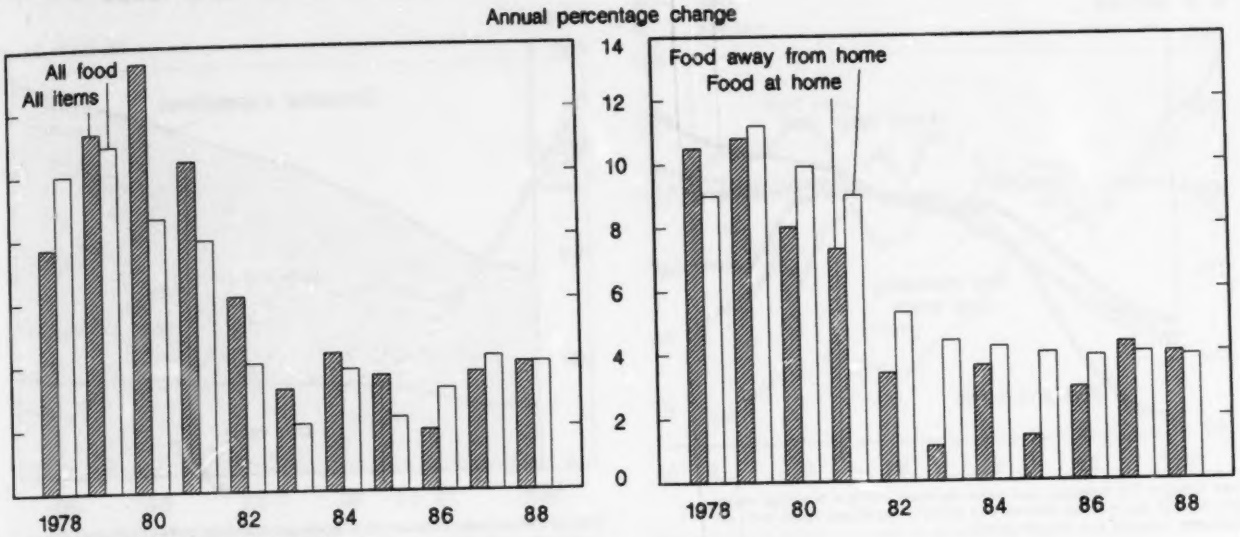




Consumer Prices

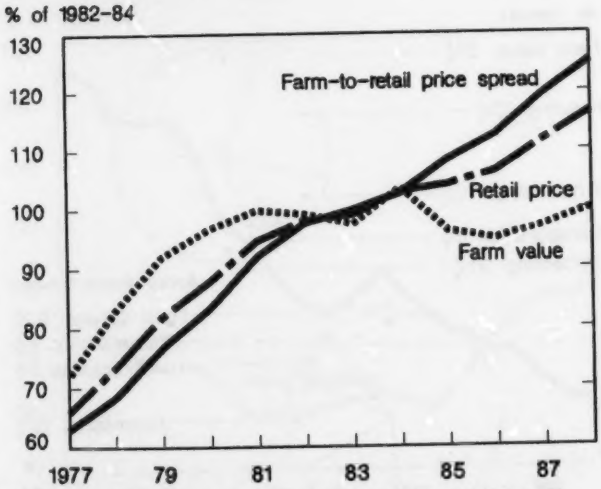
Retail food prices rose 4.1 percent in 1988. The rise was the result of increases in the farm value and the farm-to-retail price spread. Farm value as a share of retail price averaged 30 percent for all foods in the market basket in 1988. The share varies among foods, reflecting differences in farm production and marketing costs.

Chart 123
Consumer price index for food



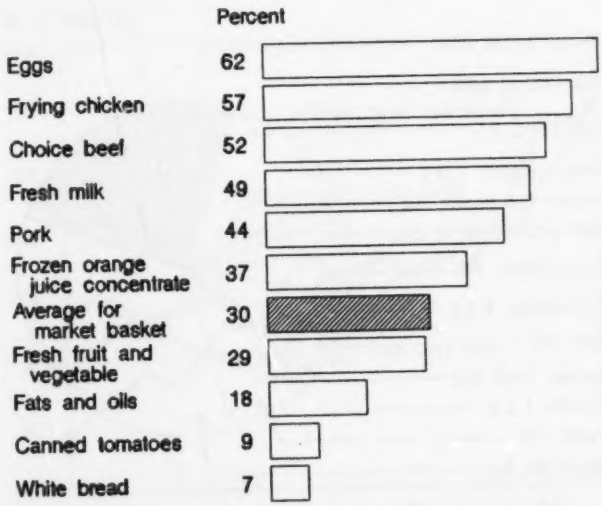
1988 forecast. Source: Bureau of Labor Statistics.

Chart 124
Retail price, farm value, and price spread for food



Data for a market basket of foods sold in retail stores. Retail price is that paid by consumers. Farm value is prices received by farmers for commodities. Price spread represents all charges for processing and distribution.

Chart 125
Farm value share of retail food prices



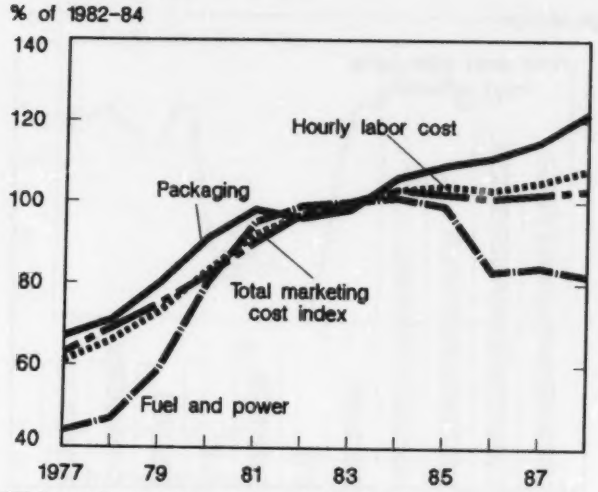
1987 data. Farm value share of the proportion the farmer receives from the dollar the consumer spends. The remainder of the dollar goes to marketing firms.

Food Marketing Costs

Increases in labor costs and prices of principal inputs used by the food industry averaged about 3 percent in 1988. Cost increases were largest for food packaging materials and transportation.

Chart 126

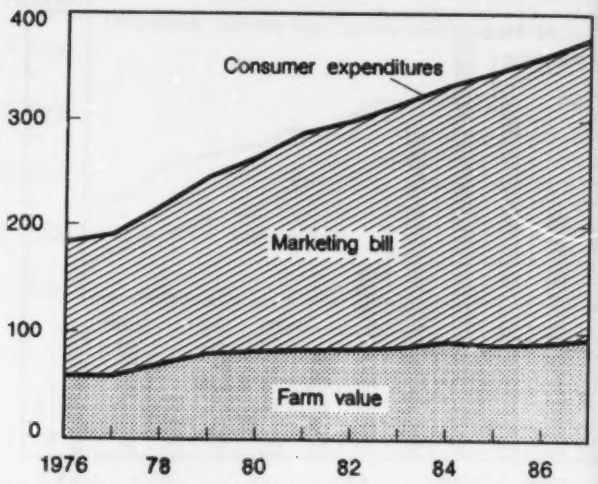
Food processing, wholesaling, and retailing costs



1988 forecast. The marketing cost index measures changes in worker wages, salaries, and supplemental benefits, and prices of purchased inputs such as packaging materials and fuel and power.

Chart 127

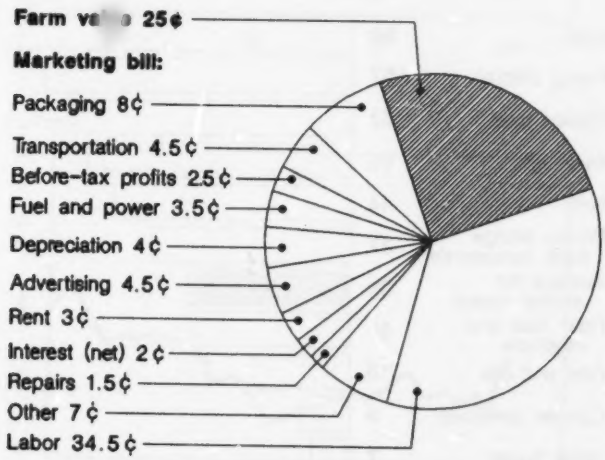
Marketing bill, farm value, and consumer expenditures for farm foods



Data for domestically produced farm foods purchased by civilian consumers for consumption both at home and away from home.

Chart 128

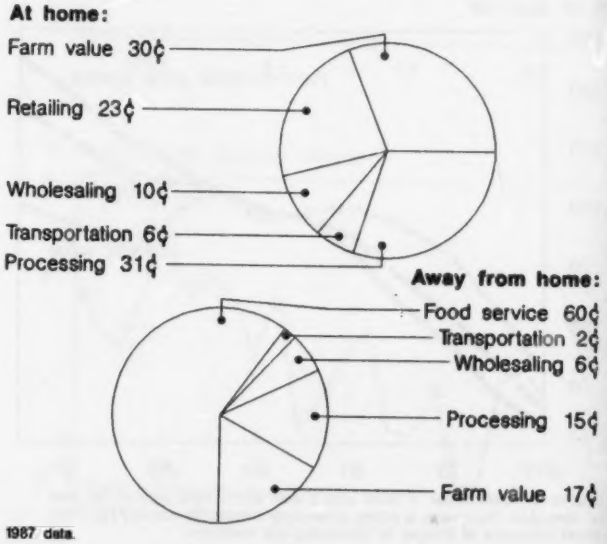
What a dollar spent on food paid for in 1987



Other costs include property taxes and insurance, accounting and professional services, promotion, bad debts, and miscellaneous items.

Chart 129

Where the food dollar goes at home and away



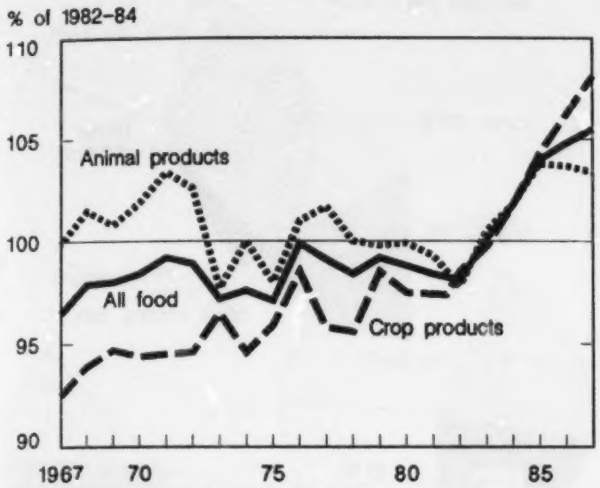
1987 data.

Food Consumption

The average American consumed more poultry, fish, lowfat milk, yogurt, cheese, fruits, vegetables, grain products (pasta, rice, breakfast cereals), dry edible beans, fats and oils, and sweeteners, and less red meat, whole milk, and eggs in 1987 compared with 1982-84.

Chart 130

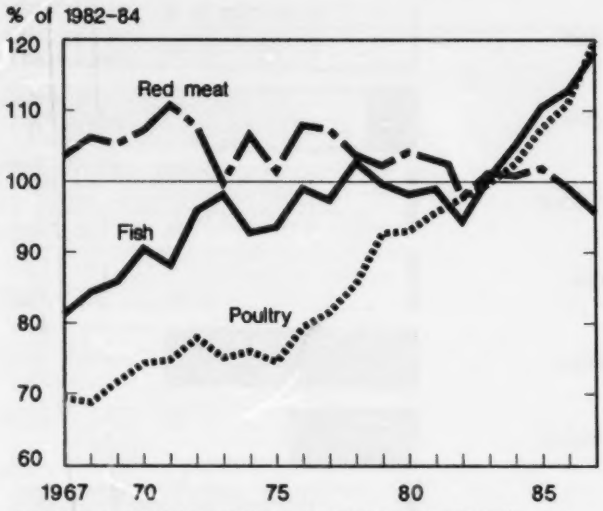
Per capita consumption of food



The price-weighted per capita food consumption index measures quantity changes, but also reflects certain changes in the quality of foods consumed, such as the shift from lower priced to higher priced foods.

Chart 131

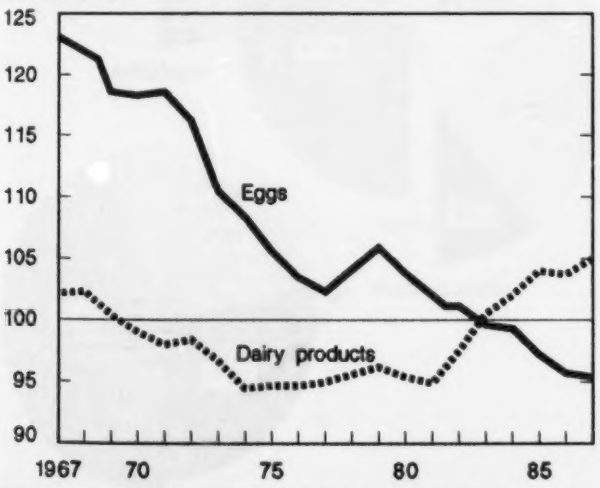
Per capita consumption of meat, poultry, and fish



These indexes are based on pounds consumed (retail-weight equivalent) and measure quantity changes only.

Chart 132

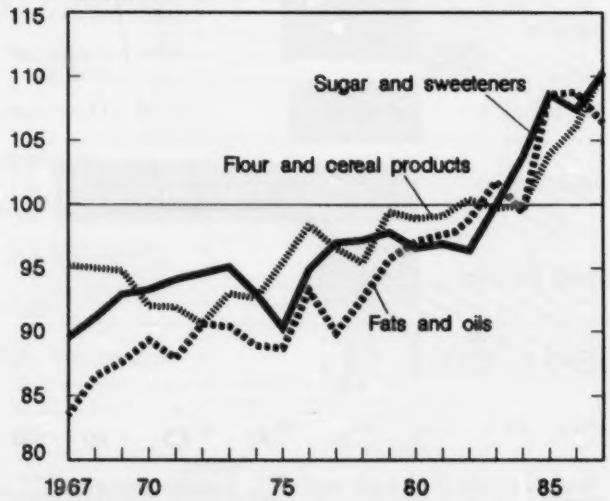
Per capita consumption of eggs and dairy products



Indexes based on pounds consumed and measure quantity changes only. Milk equivalent for all dairy products.

Chart 133

Per capita consumption of selected processed products



These indexes measure quantity changes only.

Diet

Women eat almost all their day's meat, poultry, fish, and vegetables at lunch and dinner. The largest proportion of fruits and milk and milk products are eaten at breakfast, and the largest portion of grain products are eaten at dinner.

Chart 134

Percentages of selected foods consumed by women at meals and snacks

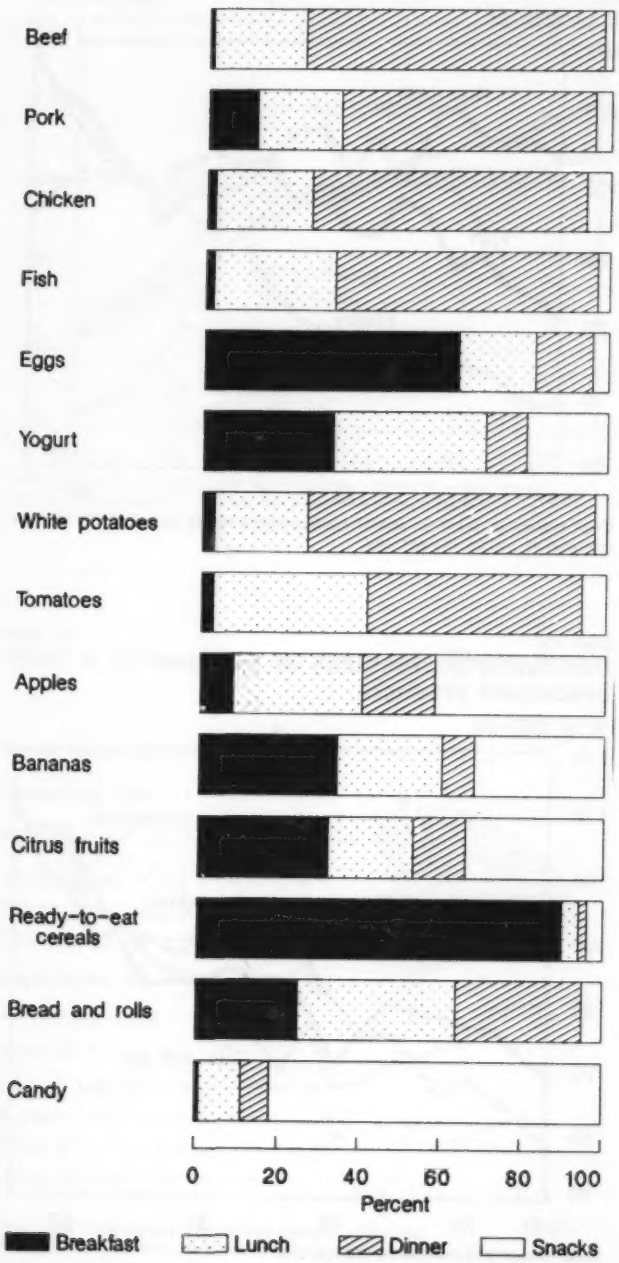
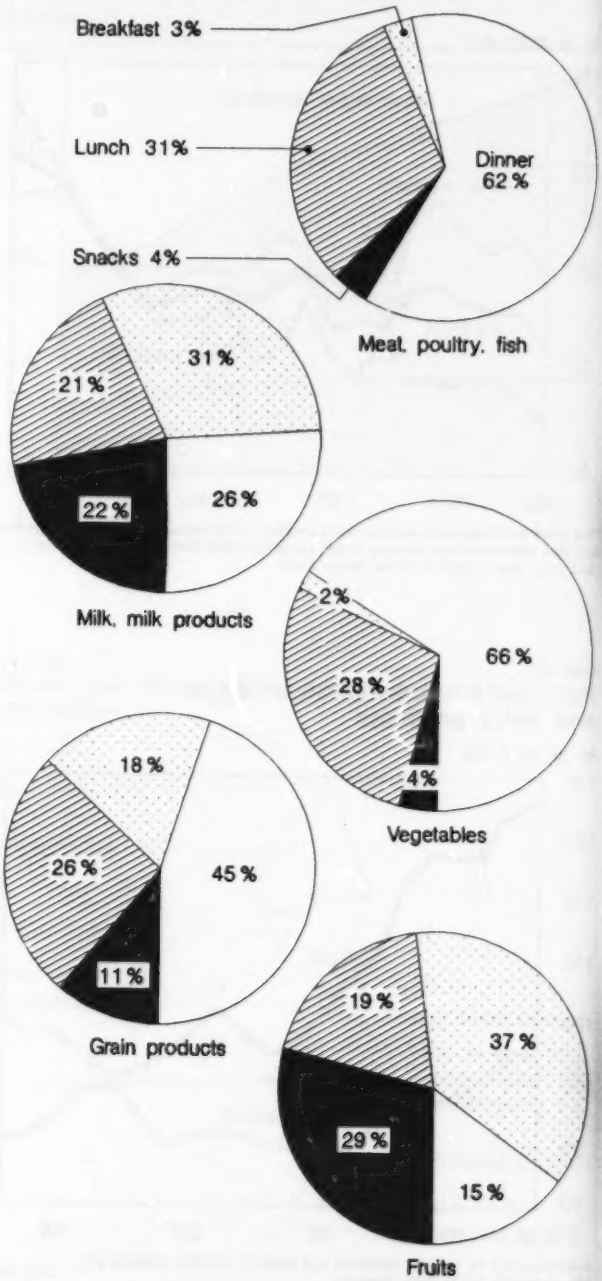


Chart 135

Percentages of food groups consumed by women at meals and snacks



1985 data. Data are means based on intakes over four nonconsecutive days by 1,088 women 19-50 years old. Comparable data for men not available.
Source: Continuing Survey of Food Intakes by Individuals.

Diet

Breakfast was the most important meal for women drinking fluid milk, fruit juices and nectars, and coffee. Women consumed almost half of alcoholic beverages and carbonated soft drinks away from home. Women ate almost half their food away from home in restaurants/cafeterias or fast food establishments.

Chart 136

Percentages of selected beverages consumed by women at meals and snacks

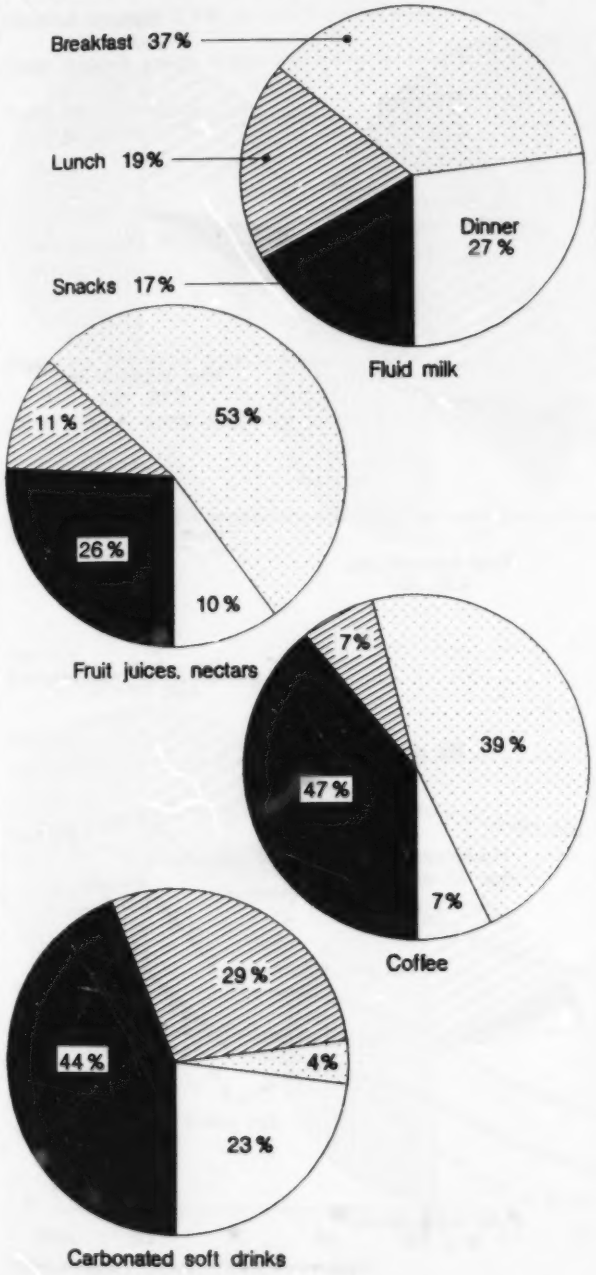


Chart 137

Food eaten away from home by women

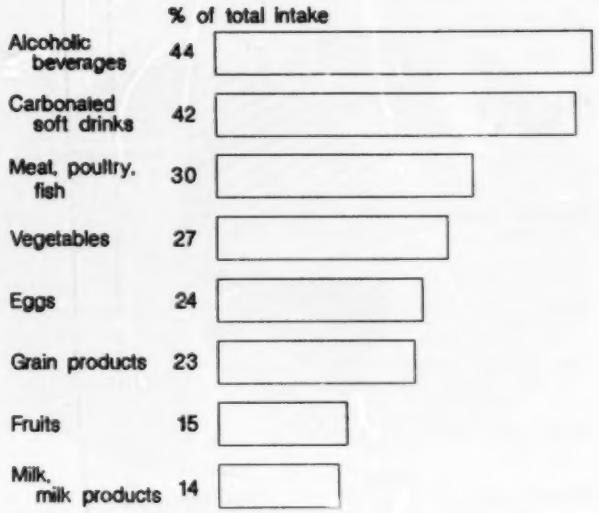
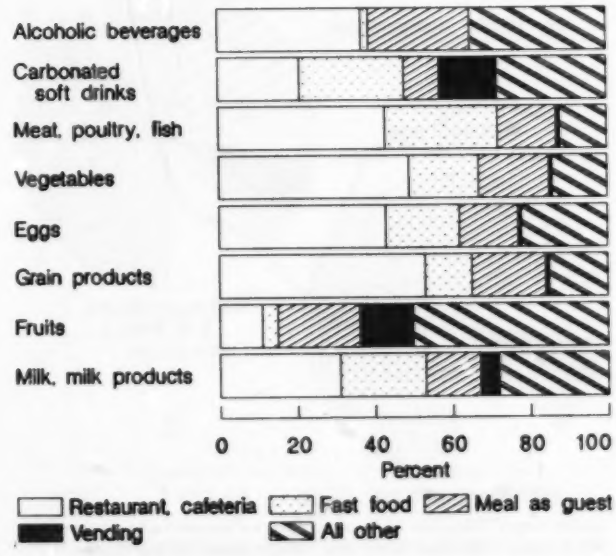


Chart 138

Sources of food eaten away from home



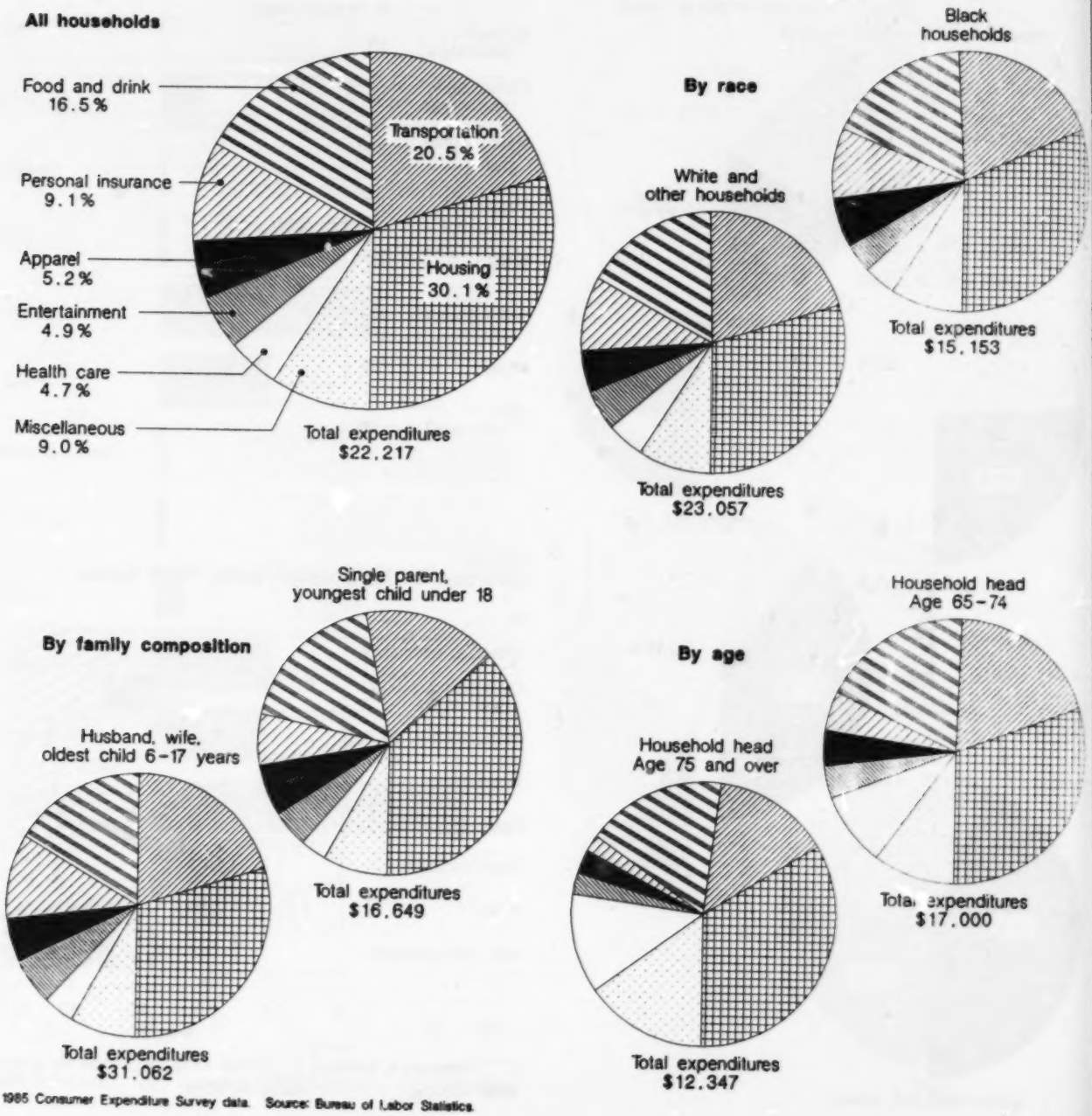
1985 data. Data are means based on intakes over four nonconsecutive days by 1,088 women 19-50 years old. Comparable data for men not available.
Source: Continuing Survey of Food Intakes by Individuals.

Family Economics

Housing is a larger share of expenditures in families headed by a single parent or by someone age 75 and older. These families allocate smaller shares for transportation than other families. Contributions to charities, church, educational and political organizations, and so on (included in miscellaneous) and health care constitute larger shares among the elderly.

Chart 139

Annual household expenditures

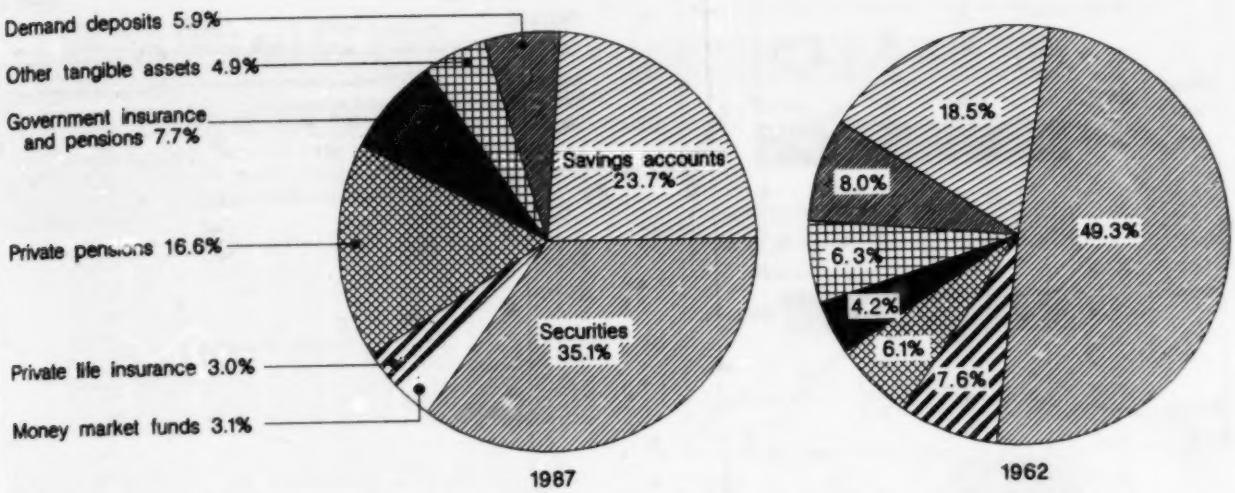


1985 Consumer Expenditure Survey data. Source: Bureau of Labor Statistics.

Family Economics

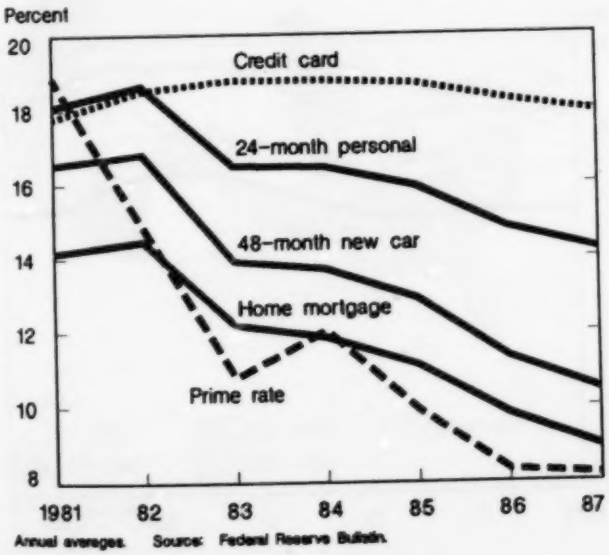
The savings rate, at 3.2 percent, was at a 10-year low in 1987. Individuals held nearly half their assets in securities in 1962, but 25 years later had a higher proportion of assets in savings accounts and private pensions. Interest rates on consumer loans continued their downward trend.

Chart 140
Distribution of financial assets



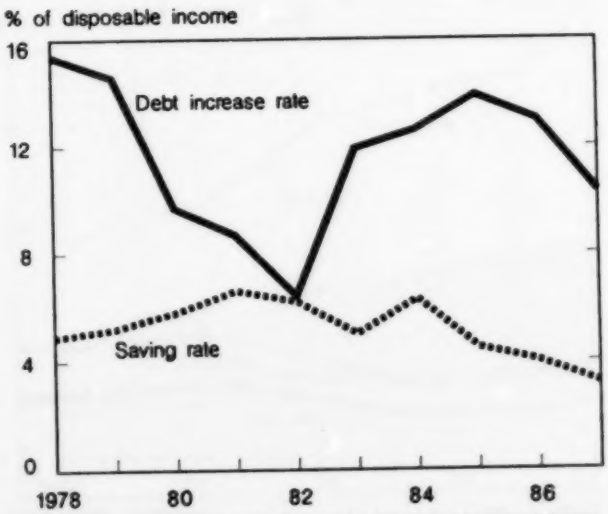
Other tangible assets include residential and nonresidential fixed assets, consumer durables, and inventories. 1962 money market funds were less than 1 percent.
Source: Federal Reserve Board.

Chart 141
Consumer loan rates



Annual averages. Source: Federal Reserve Bulletin.

Chart 142
Household debt and saving

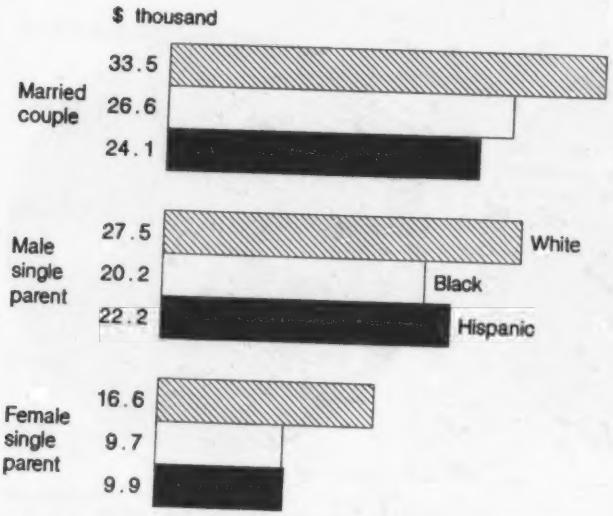


Debt increase rate equals new net liabilities divided by disposable personal income.
Source: Federal Reserve Board and Bureau of Economic Analysis

Family Economics

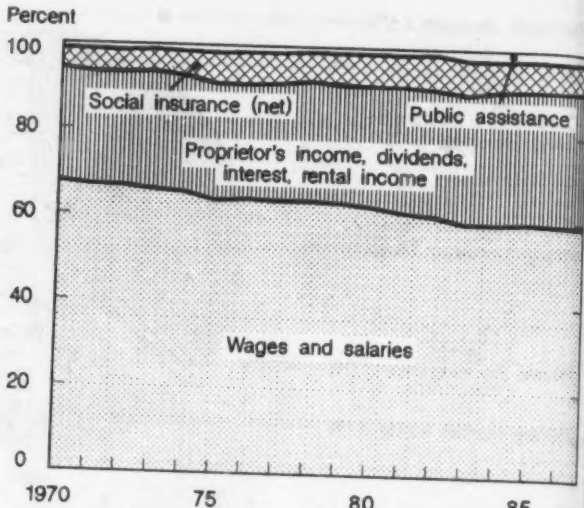
A decreasing share of personal income is derived from wages and salaries since 1970. Families headed by mothers received less than half the income received by families with both parents. Children's poverty rates continued to increase after those for the elderly began to decline.

Chart 143
Median income by family type and race



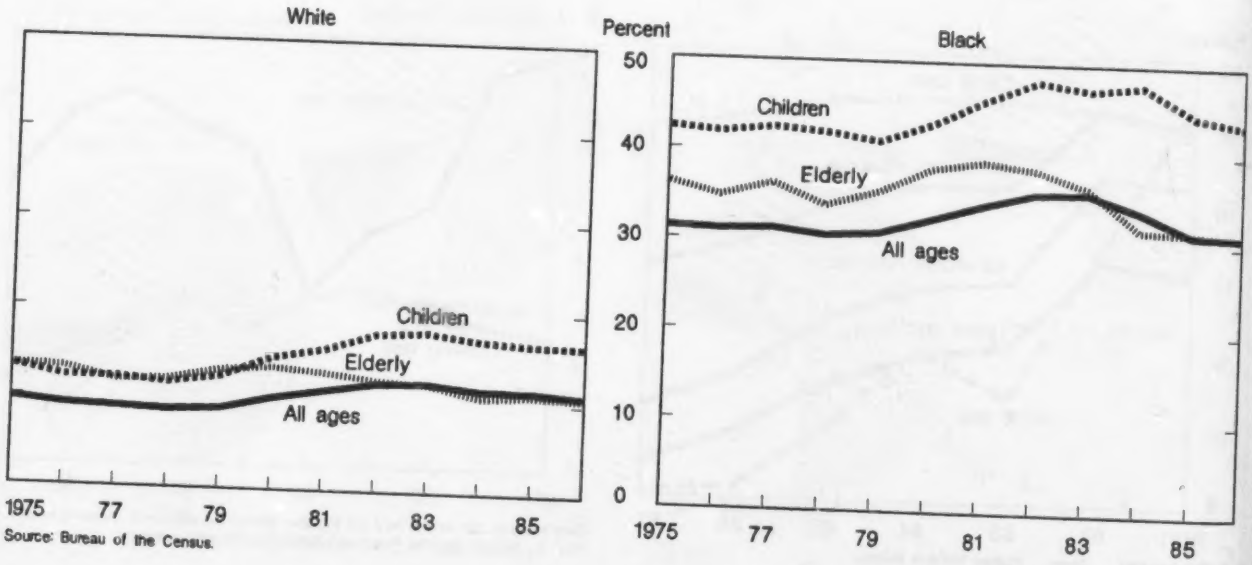
1986 data. Source: Bureau of the Census.

Chart 144
Personal income sources



Social insurance includes government transfer payments, less personal contributions.
Source: Bureau of Economic Analysis.

Chart 145
Poverty rates for individuals

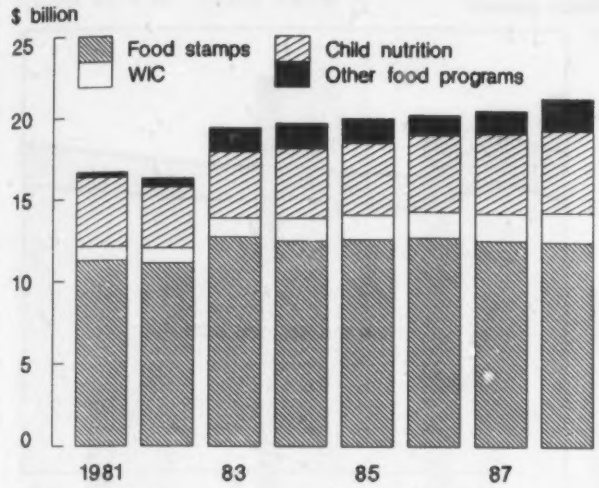


Source: Bureau of the Census.

Food Assistance

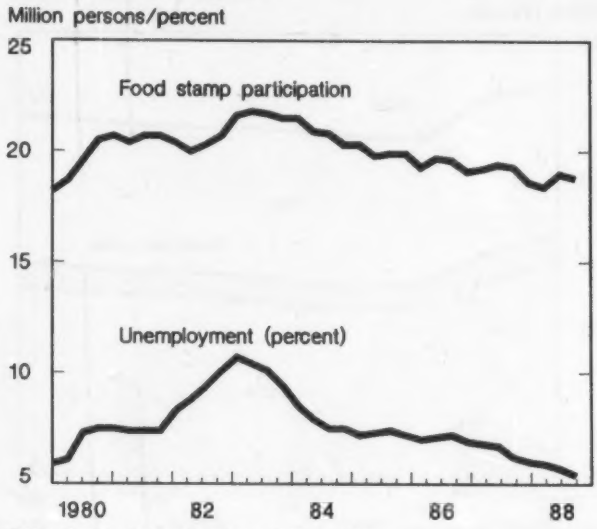
Expenditures for the USDA food assistance programs and benefits increased about 48 percent from 1980-88. About 58 percent of 1988 expenditures were for the Food Stamp Program, which vary widely by State. Expenditures for the WIC Program rose from 13 percent of the total in 1980 to about 17 percent in 1988.

Chart 146
USDA costs for food assistance



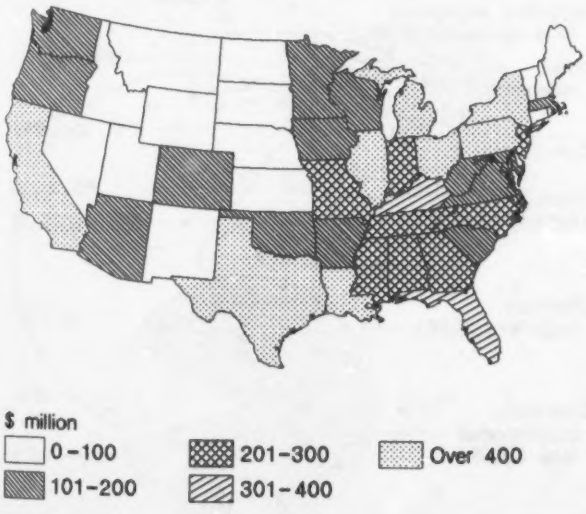
1988 estimated. Fiscal years. Other programs include administrative costs and surplus commodities. Food stamps include cash assistance for Puerto Rico. WIC is Women, Infants, and Children Program.

Chart 147
Unemployment rate and participation in the Food Stamp Program



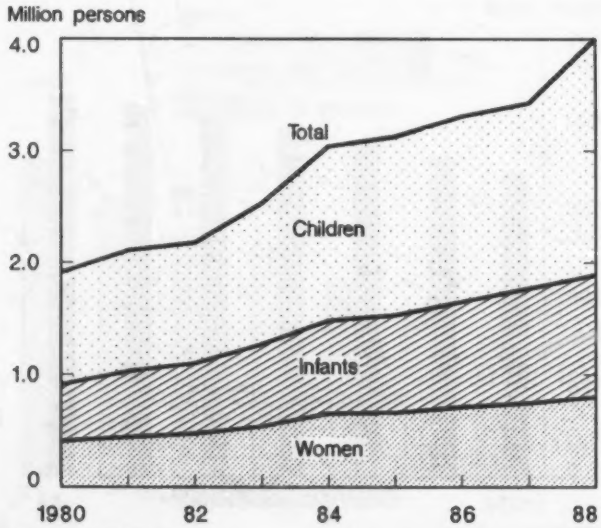
1988 estimated. Seasonally adjusted fiscal year data.

Chart 148
Expenditures for food assistance for the Food Stamp Program by State



1987 fiscal year data.

Chart 149
Participants in the WIC Program



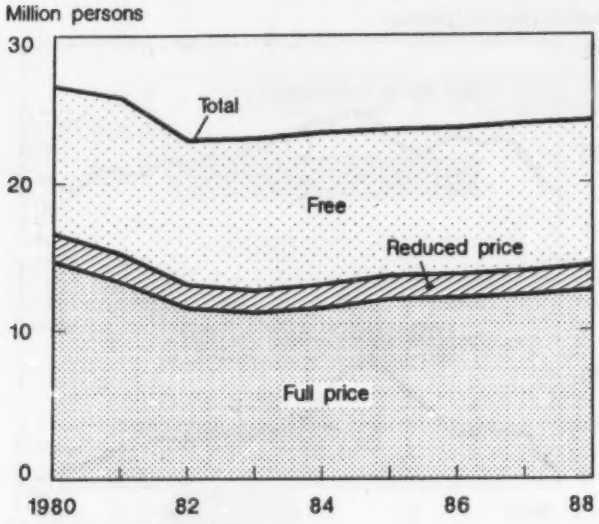
1988 estimated. Fiscal years.

Child Nutrition and Food Distribution

Participation in the school lunch and breakfast programs rose in 1988 for the sixth straight year. About half of the increases were participants paying full price for their meals. Number of meals served under the Child Care Food Program reached a record high for the second consecutive year.

Chart 150

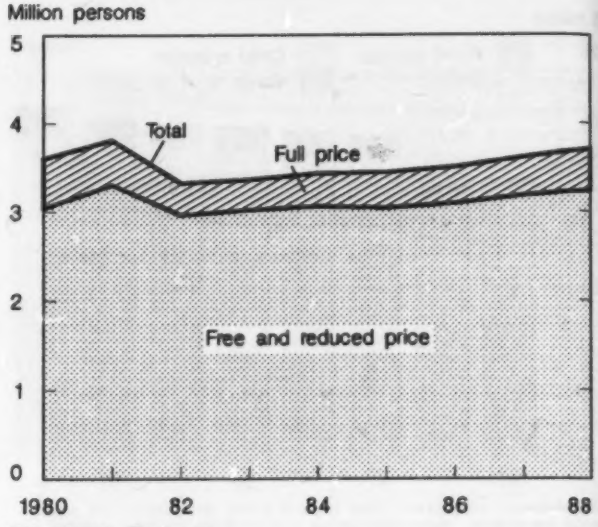
Children in the National School Lunch Program



1988 estimated. Fiscal years.

Chart 151

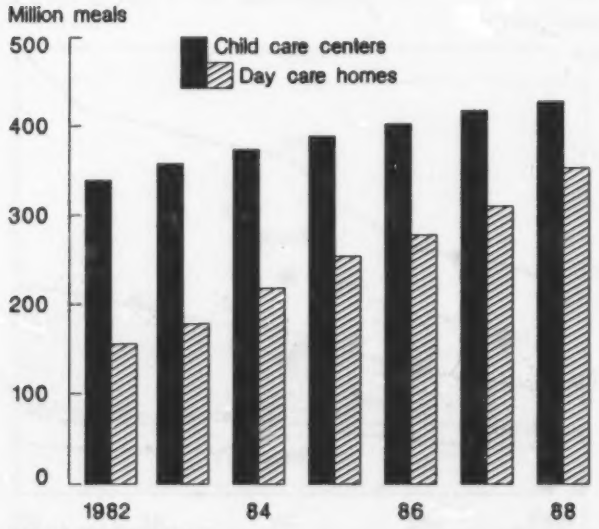
Children in the School Breakfast Program



1988 estimated. Fiscal years.

Chart 152

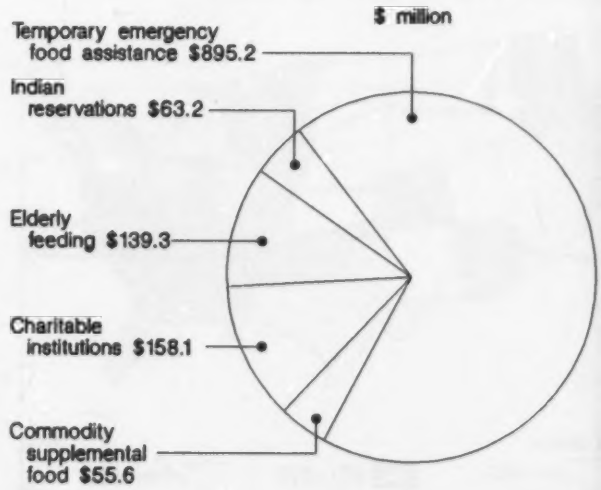
Meals served in the Child Care Food Program



1988 estimated. Fiscal years.

Chart 153

Food donation costs



1987 preliminary fiscal year data. Excludes Child Nutrition Programs.

Producer Subsidy Equivalents

The United States, EC, and Canada tended to have similar levels of support for producers. Major traders increased support during 1982-86. U.S. agricultural producer assistance went mostly to grain and dairy producers. Worldwide, producers of dairy products and sugar received the highest support.

Chart 154
Average producer subsidy equivalents for grains, livestock, dairy, oilseeds, and sugar

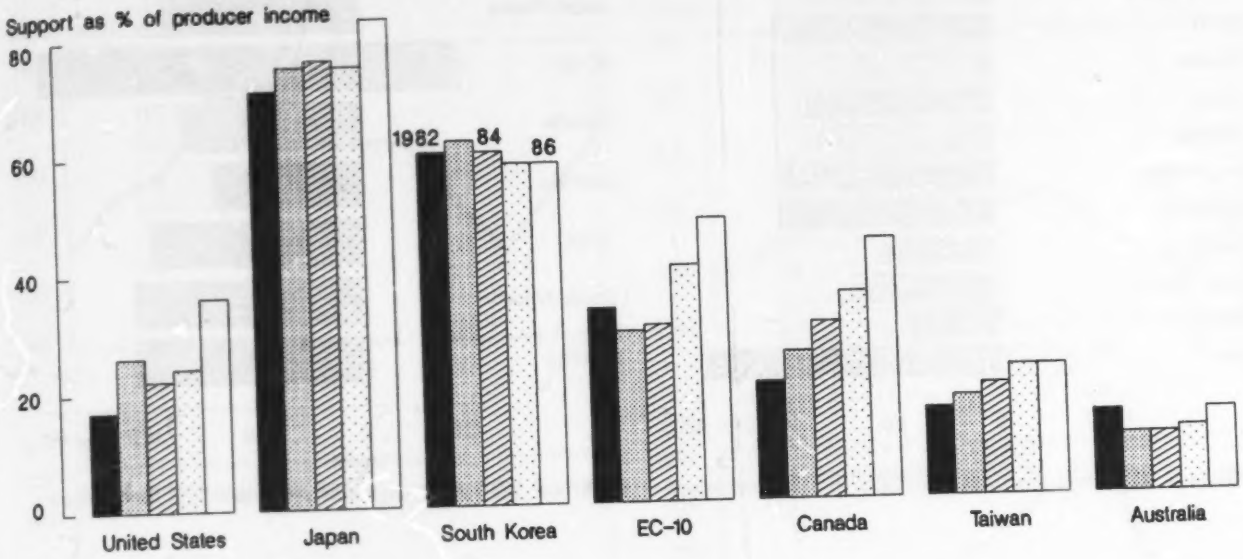


Chart 155
Distribution of U.S. assistance by commodity

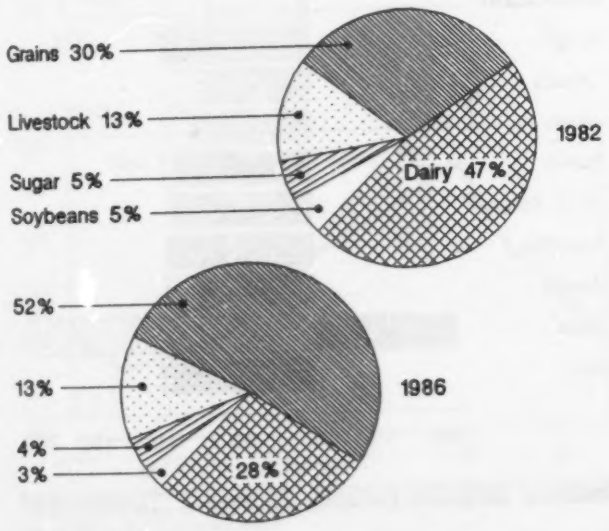
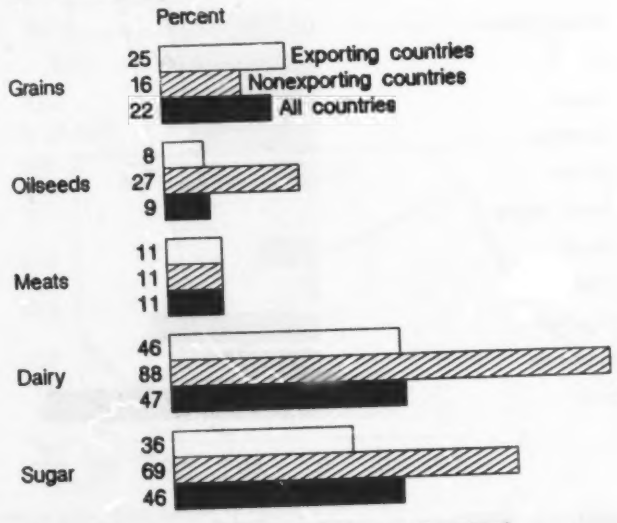


Chart 156
Average U.S. producer subsidy equivalents, by commodity group, 1982-86



Average producer subsidy equivalents weighted by quantity produced.

Producer subsidy equivalents (PSE's) measure levels of support (or taxation) provided to producers by domestic farm programs and agricultural trade barriers. PSE's report the value of Government support as a percentage of producers' agricultural income (cash receipts plus direct payments).

Producer Subsidy Equivalents

Major traders used price policies more than other policies to help producers. Among developing countries, input subsidies accounted for a large proportion of government support but foreign exchange controls often affected prices.

Chart 157
Policies used to subsidize and tax wheat producers, 1986

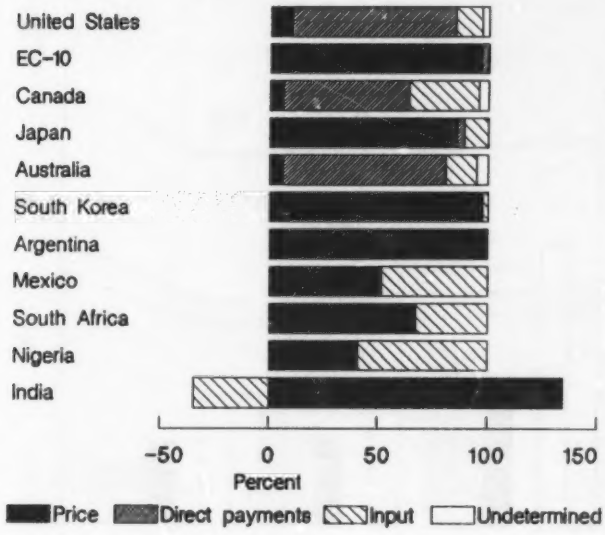


Chart 158
Policies used to subsidize and tax sugar producers, 1986

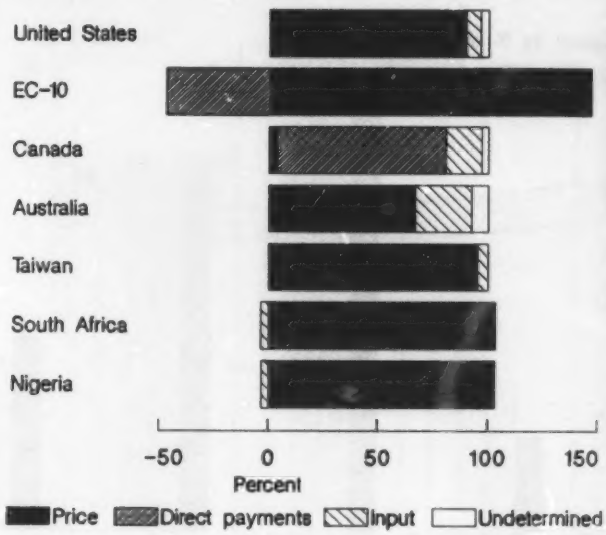


Chart 159
Policies used to subsidize and tax rice producers, 1986

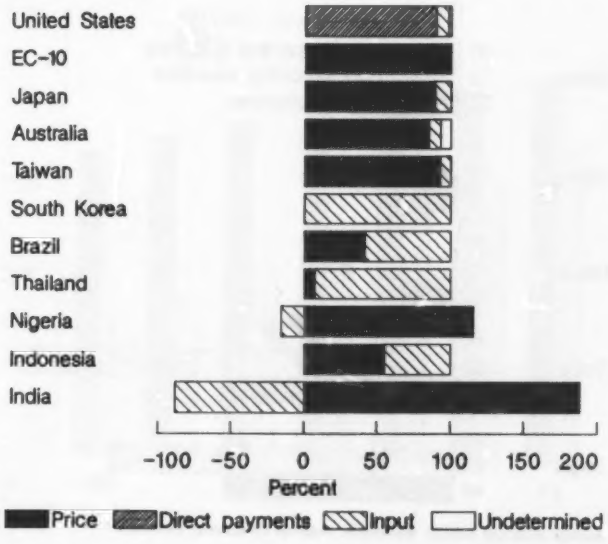
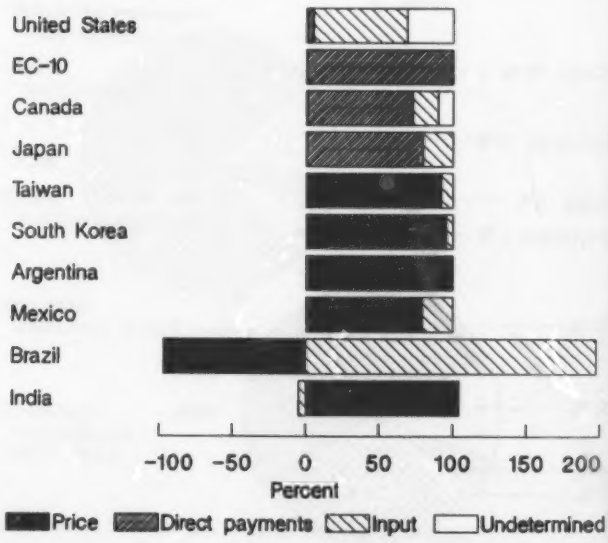


Chart 160
Policies used to subsidize and tax soybean producers, 1986

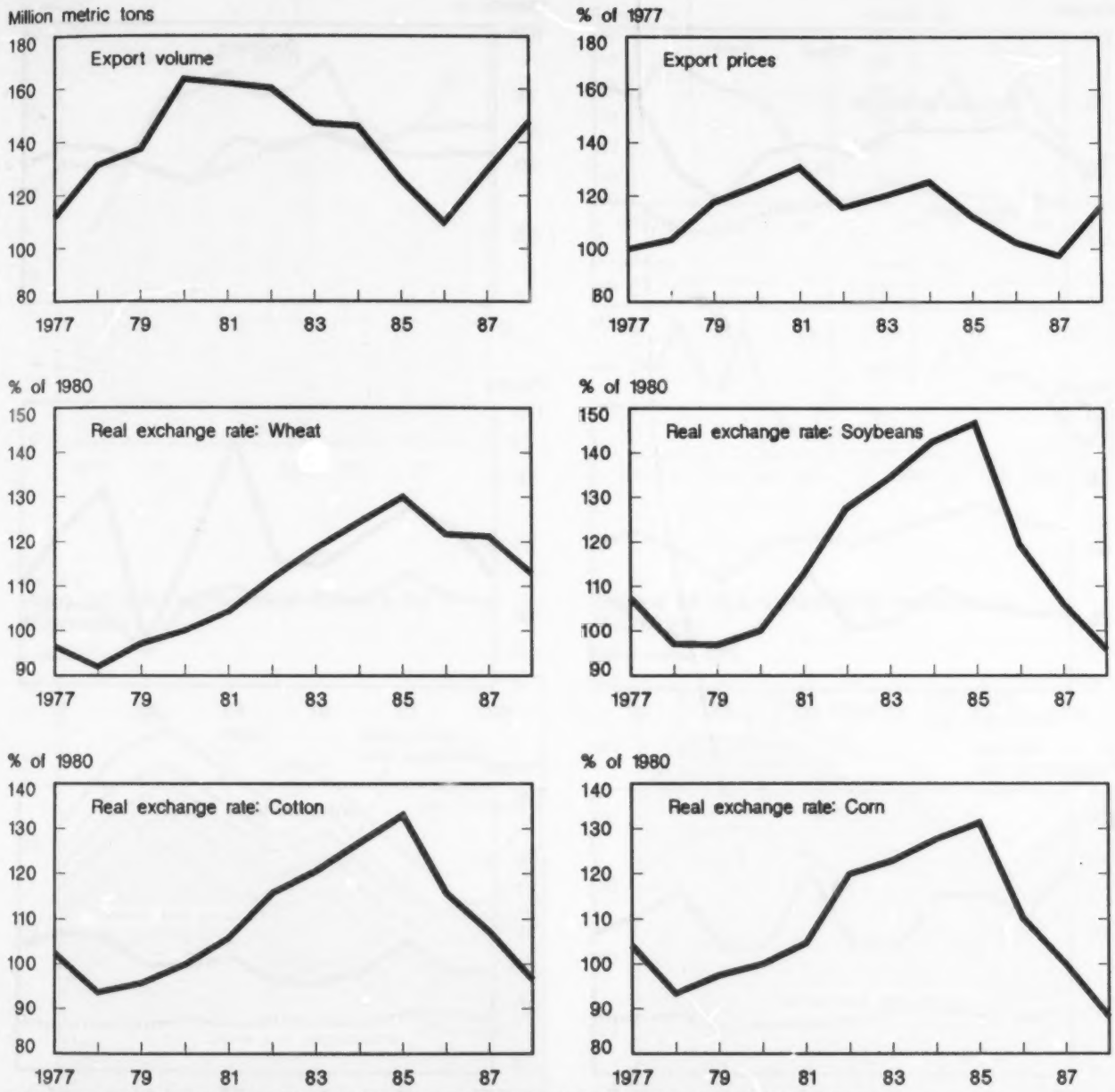


Negative percentages indicate policies that counteract a country's overall agricultural policy.

U.S. Trade

U.S. ag export volume increased for a second straight year, by 14 percent, accompanied by a 19-percent increase in price, mostly due to foreign demand and the U.S. drought. Exchange rates fell for a third straight year. Weighted exchange rates for soybeans dropped the most (35 percent), followed by corn (33 percent), cotton (27 percent), and wheat (13 percent).

Chart 161
U.S. agricultural trade indicators



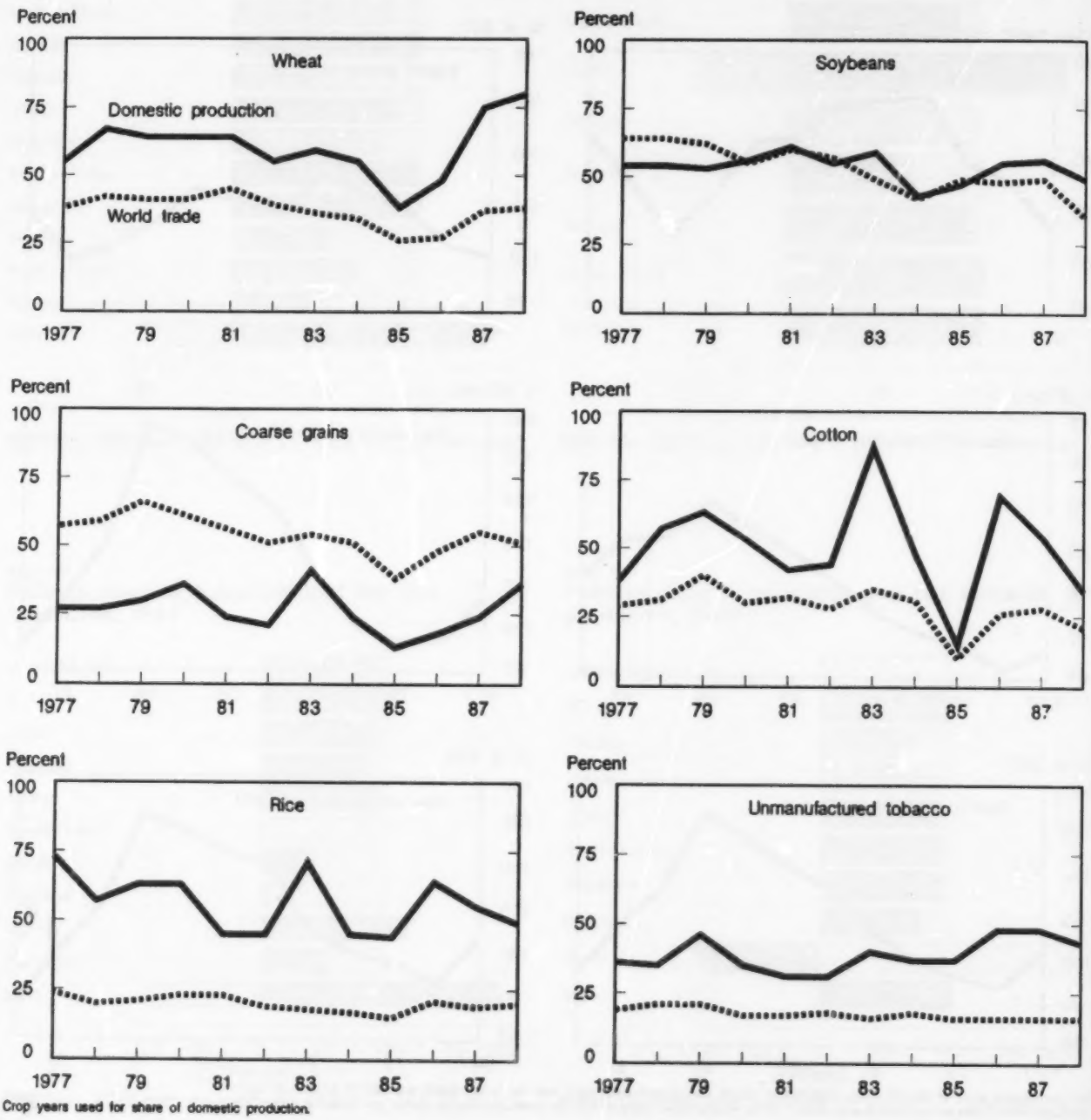
Foreign currency value of the U.S. dollar, weighted by relative size of agricultural trade with the United States, adjusted for inflation by use of a Consumer Price Index for the countries involved. An increasing value indicates that the dollar appreciated against the basket of currencies represented in that commodity market.

U.S. Trade

U.S. share of farm production exported rose 3 percentage percent to 17 percent in 1988. Export shares of wheat and coarse grains rose, but fell for soybeans, rice, cotton, and tobacco. U.S. share of the global market rose slightly for rice and wheat, but fell dramatically for soybeans (from 49 to 35 percent), as well as coarse grains, cotton, and tobacco.

Chart 162

U.S. exports: Share of domestic production and world trade



Crop years used for share of domestic production.

U.S. Trade

Resurgent exports boosted commodity prices in 1988 to their highest level in 4 years, pushing export prices above a year ago. Value of U.S. agricultural exports, other than grains and oilseeds, was a record $16.7 billion in fiscal 1988. Export volume of commodities other than grains and oilseeds were a record 21.1 million tons.

Chart 163
U.S. agricultural exports and farm prices

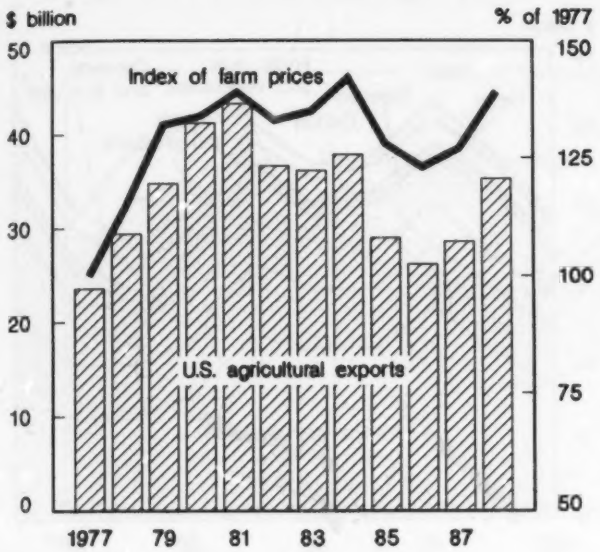


Chart 164
Export prices for major U.S. crops

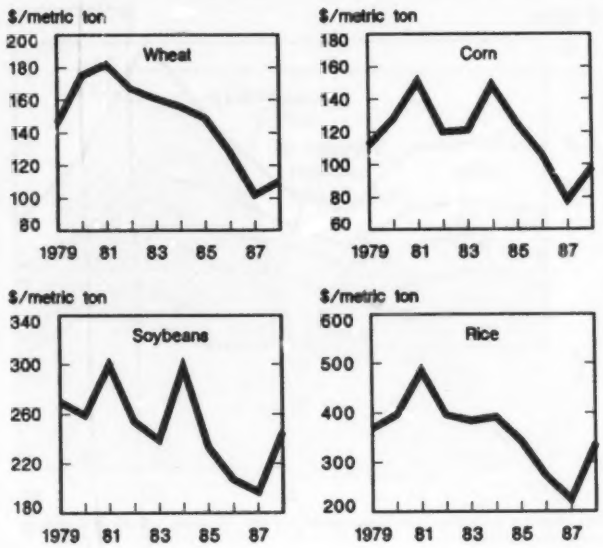


Chart 165
Value of U.S. agricultural exports by commodity

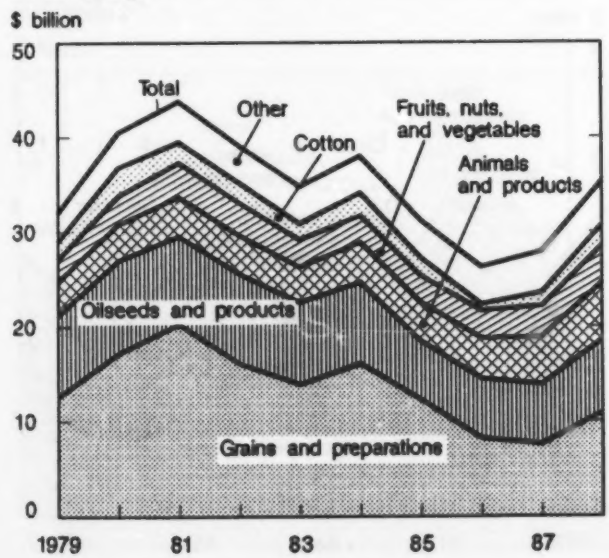
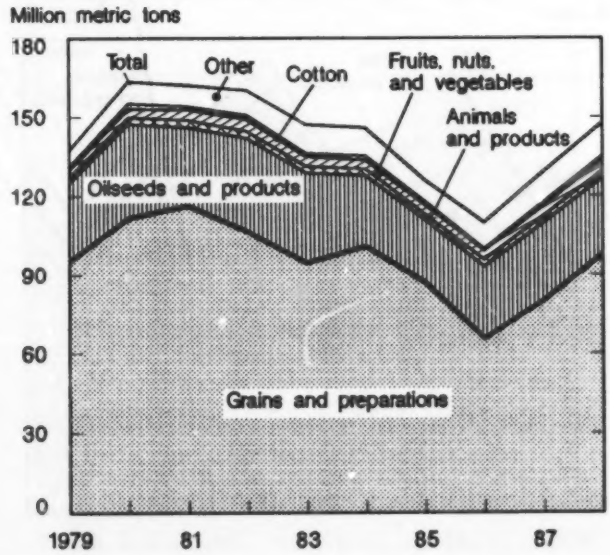


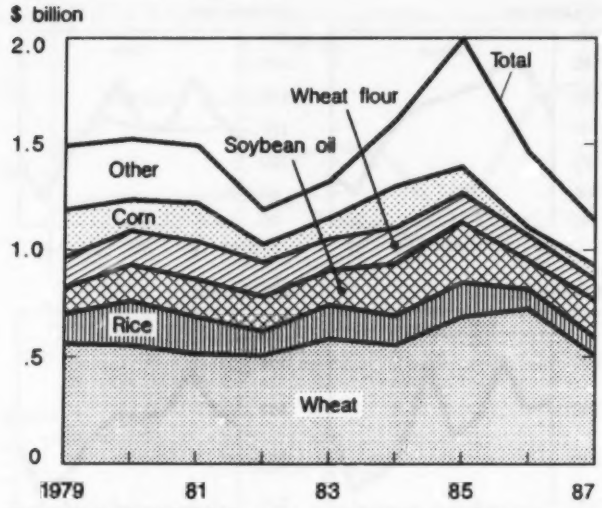
Chart 166
Volume of U.S. agricultural exports by commodity



U.S. Trade

U.S. agricultural exports to Asia in 1988 equalled 1981's record, although the mix of commodities changed. Exports to Africa, at $2.3 billion, were well below 1984's $2.9 billion. Exports to Latin America ran 17 percent above 1987, but were 36 percent below 1981's record $6.9 billion.

Chart 167
Concessional export sales of U.S. agricultural products



Other includes corn-soya-milk blend, nonfat dry milk, cornmeal, oilcake and meal, cotton, and tobacco.

Chart 168
U.S. agricultural exports to Asia

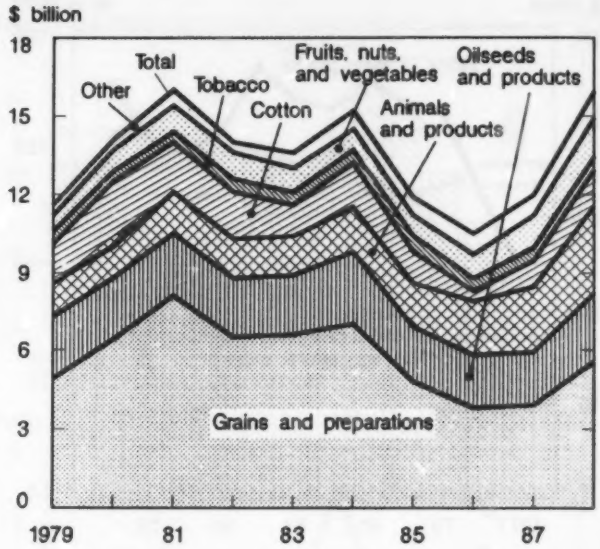


Chart 169
U.S. agricultural exports to Africa

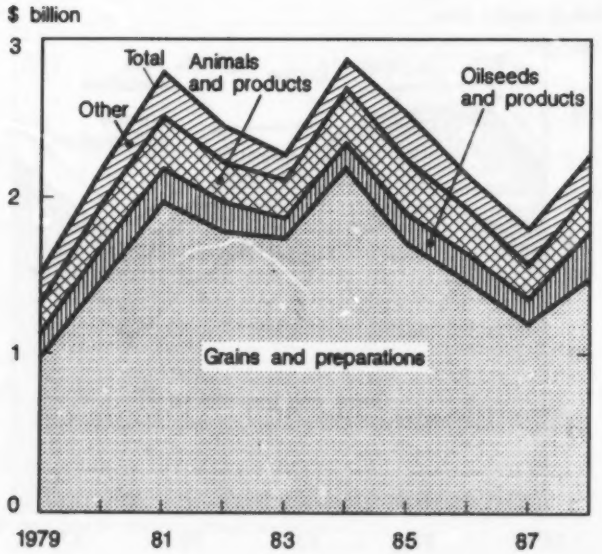
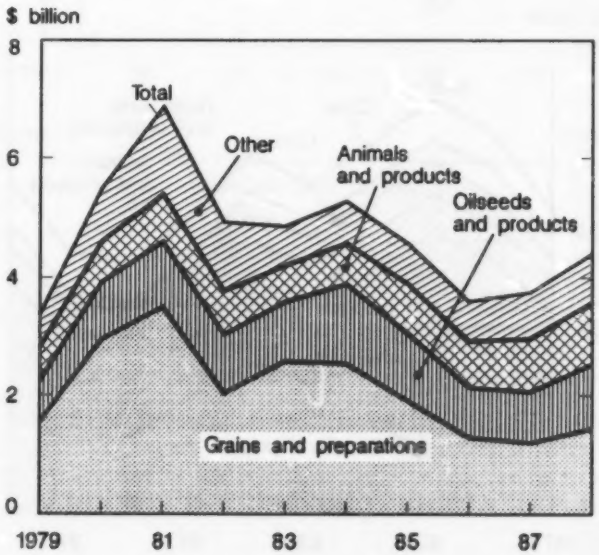


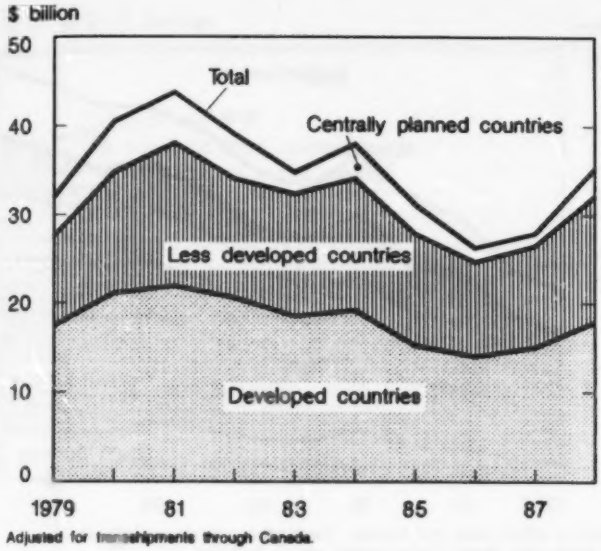
Chart 170
U.S. agricultural exports to Latin America



U.S. Trade

Value of U.S. agricultural exports to centrally planned countries rose 121 percent in fiscal 1988, 25 percent to less developed and 19 percent to developed countries. Grains and oilseeds accounted for 85 percent of U.S. sales to centrally planned economies in the past decade, compared with 65 percent to less developed and 54 percent to developed countries.

Chart 171
U.S. agricultural exports to major areas



Adjusted for transshipments through Canada.

Chart 172
U.S. agricultural exports to centrally planned countries

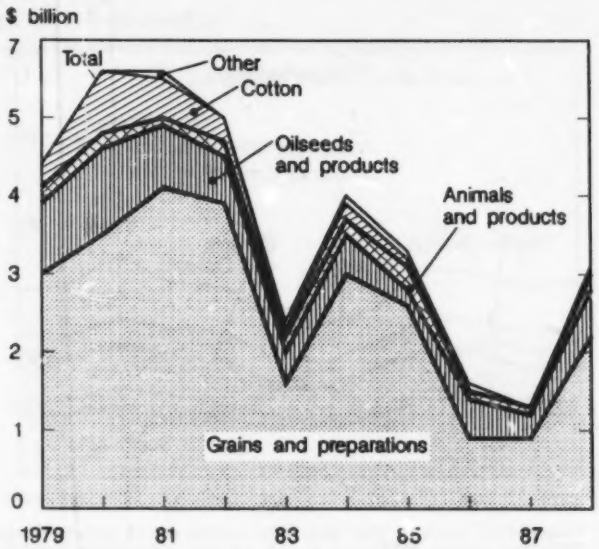


Chart 173
U.S. agricultural exports to less developed countries

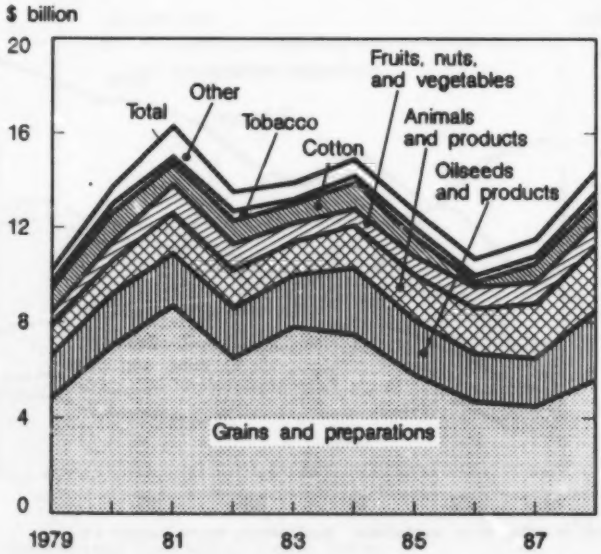
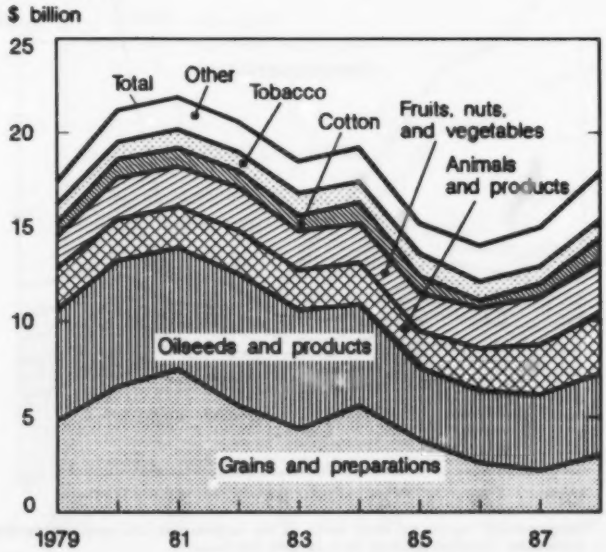


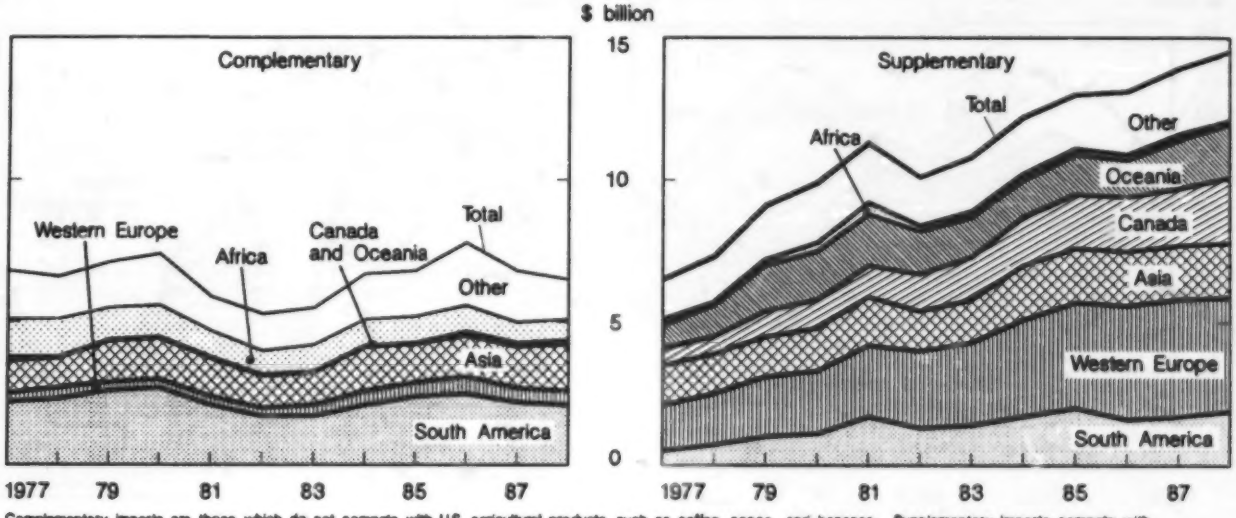
Chart 174
U.S. agricultural exports to developed countries



U.S. Trade

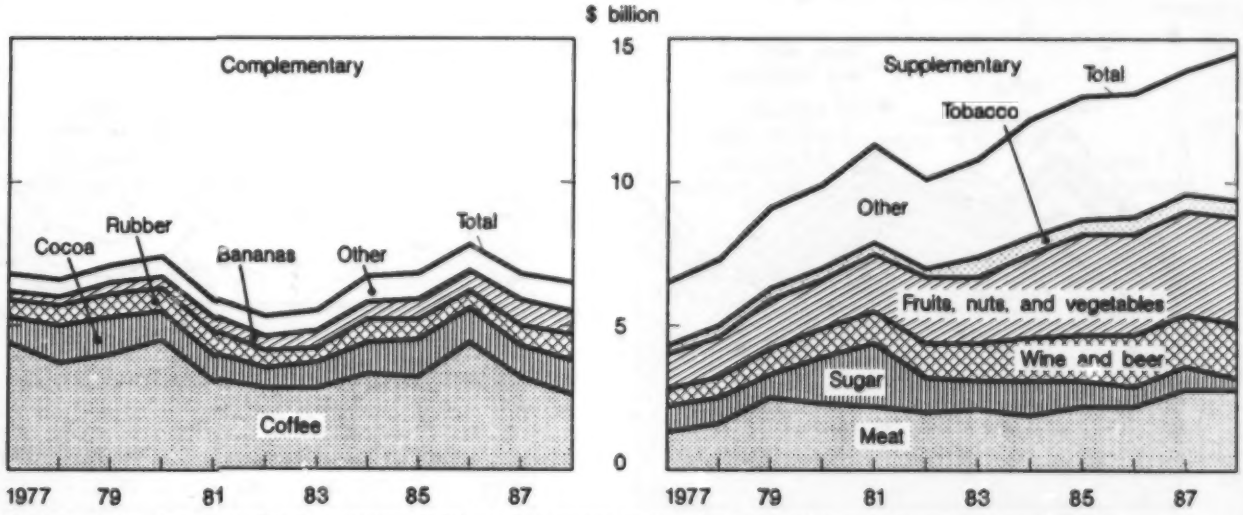
Supplementary imports in fiscal 1988 were a record high $14.5 billion. Western Europe sales of these products to the United States have increased $1.1 billion since 1983. Ninety percent of complementary imports come from Africa, Latin America, and Asia.

Chart 175
Origin of U.S. agricultural imports



Complementary imports are those which do not compete with U.S. agricultural products, such as coffee, cocoa, and bananas. Supplementary imports compete with domestically produced products such as meat and sugar. Other includes Eastern Europe, Soviet Union, Mexico, Central America, and the Caribbean.

Chart 176
U.S. agricultural imports by commodity



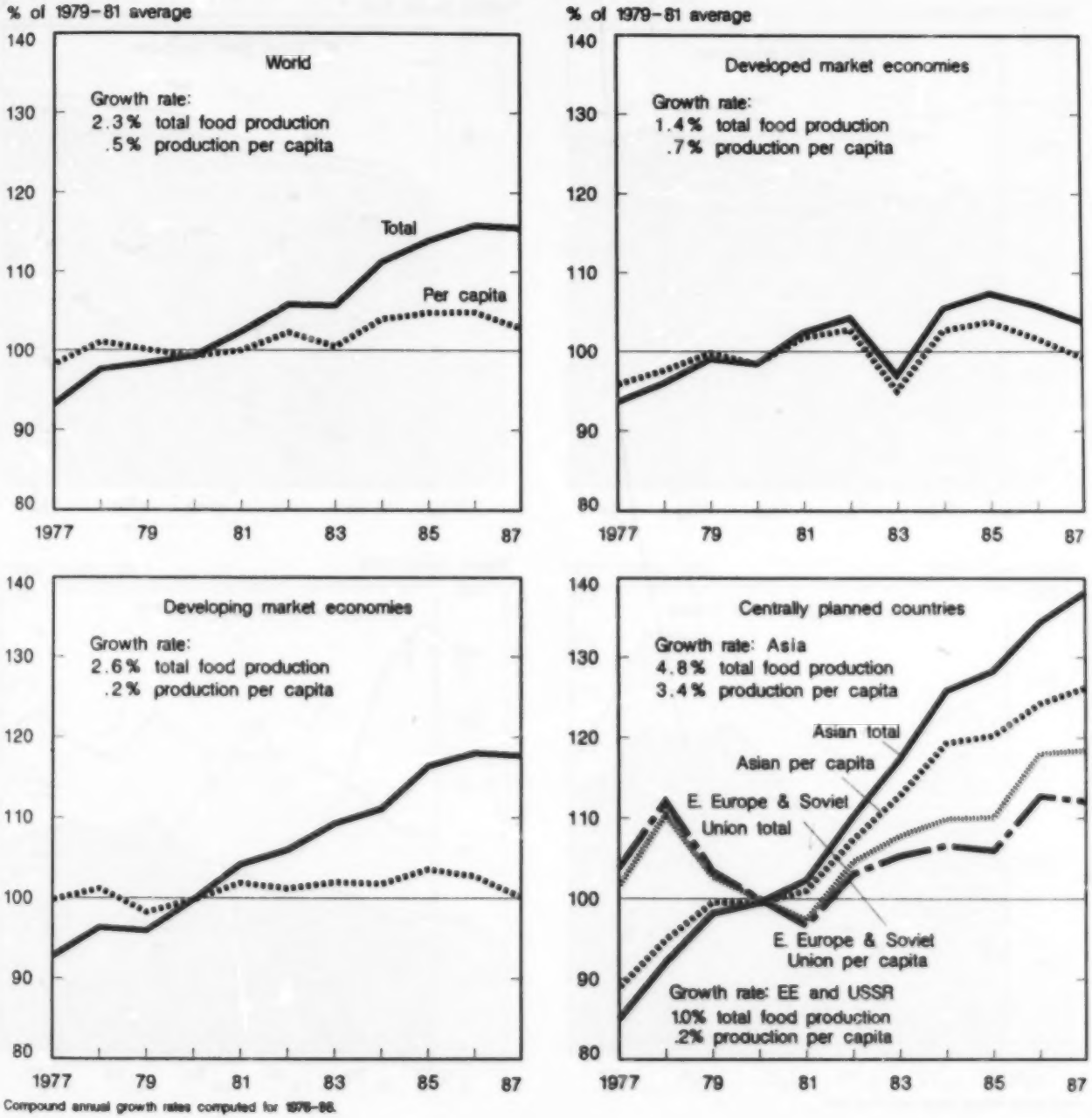
Complementary imports are those which do not compete with U.S. agricultural products, such as coffee, cocoa, and bananas. Supplementary imports compete with domestically produced products such as meat and sugar.

World Production

Food production in developing countries barely keeps up with population growth. Food production in European centrally planned countries has been recovering since 1981 but is still weak. Much of the food production increases in Asian centrally planned countries is in China.

Chart 177

Changes in world food production



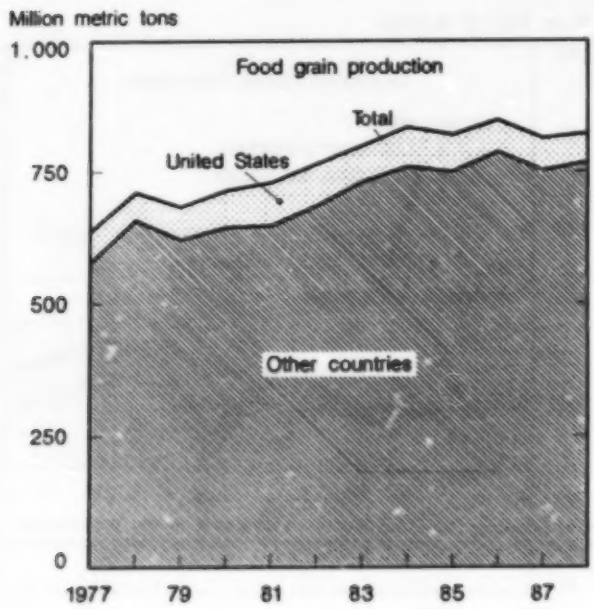
Compound annual growth rates computed for 1976–86.

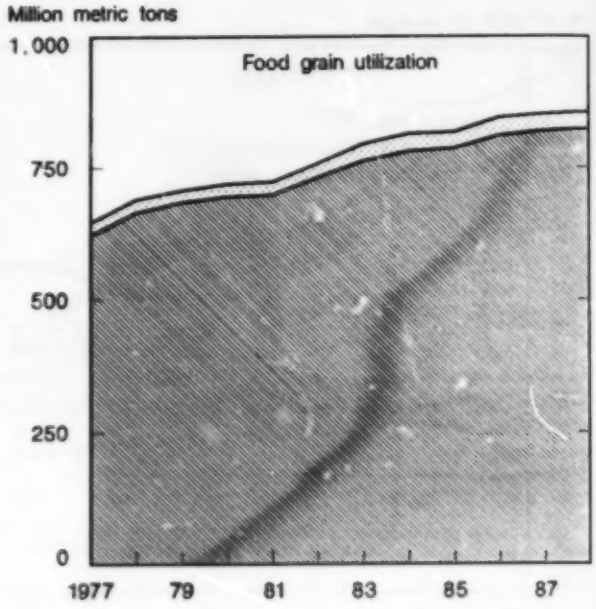
World Production

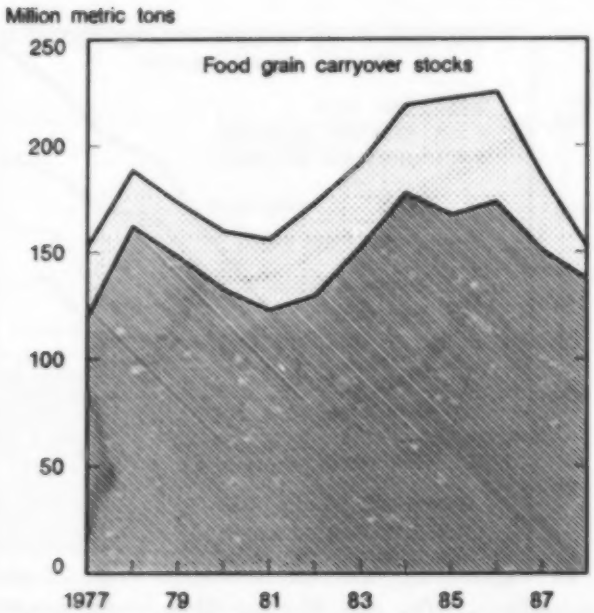
World food grain output rose 1 percent in 1988, but remained below consumption for the second straight year. Carryover stocks are at their lowest level in over 10 years. U.S. share of the world food grain export market was 36 percent, unchanged from last year.

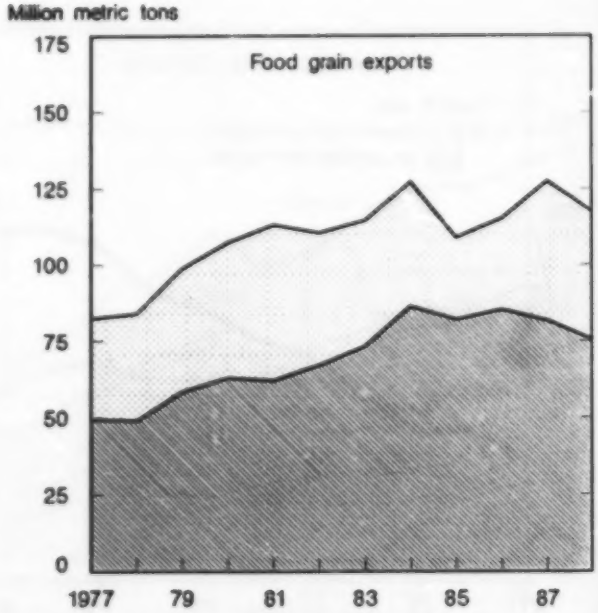
Chart 178

World and U.S. food grain production, utilization, carryover, and exports









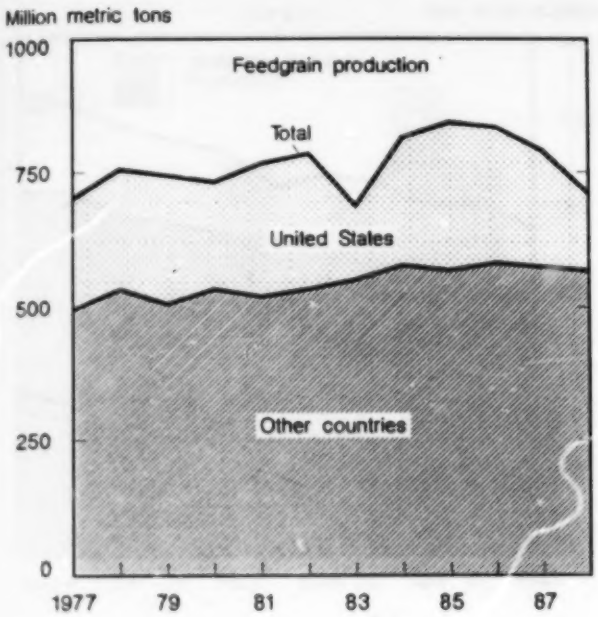
Food grains include wheat and milled rice.

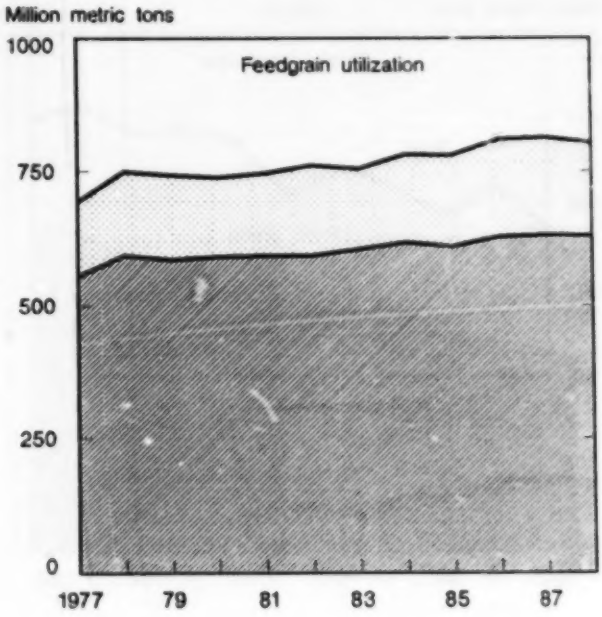
World Production

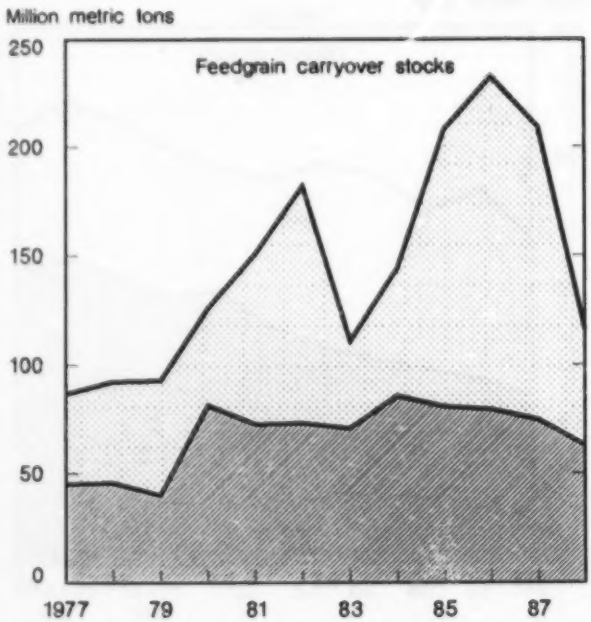
World feedgrain production dropped 10 percent in 1988, led by a 74-million ton drop in the U.S. crop. High prices drove consumption down 2 percent, and global feedgrain stocks fell to their lowest level in 5 years. Global exports exceeded 100 million tons.

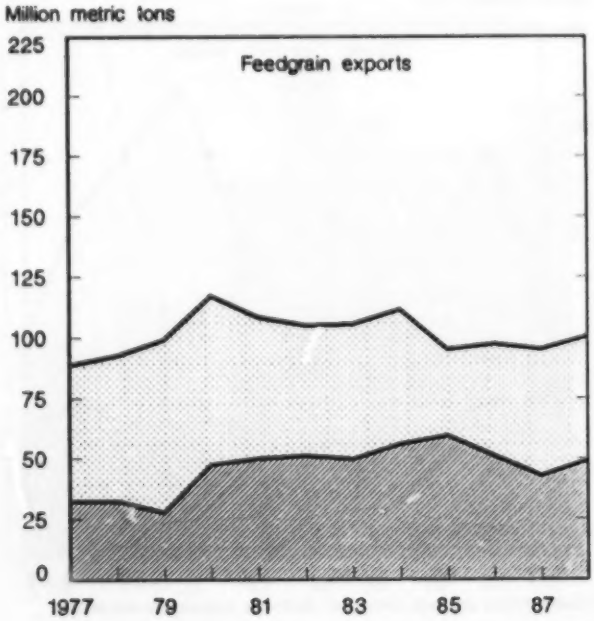
Chart 179

World and U.S. feedgrain production, utilization, carryover, and exports







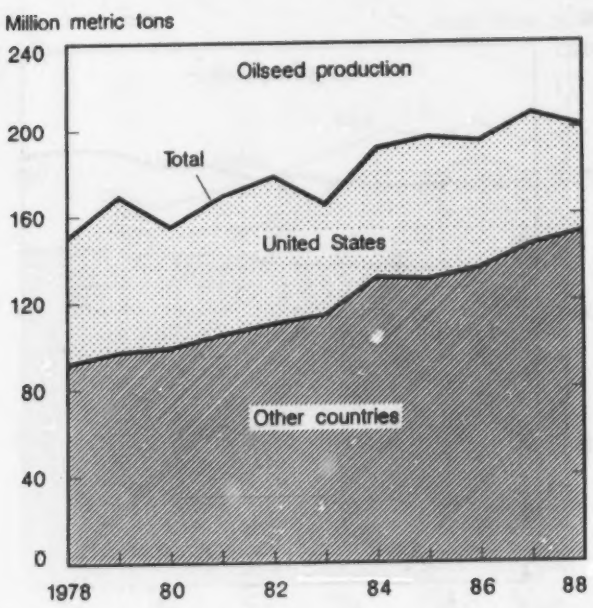


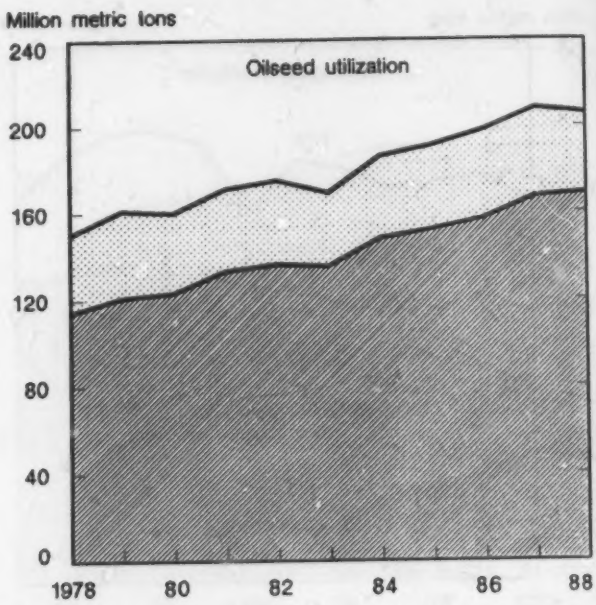
World Production

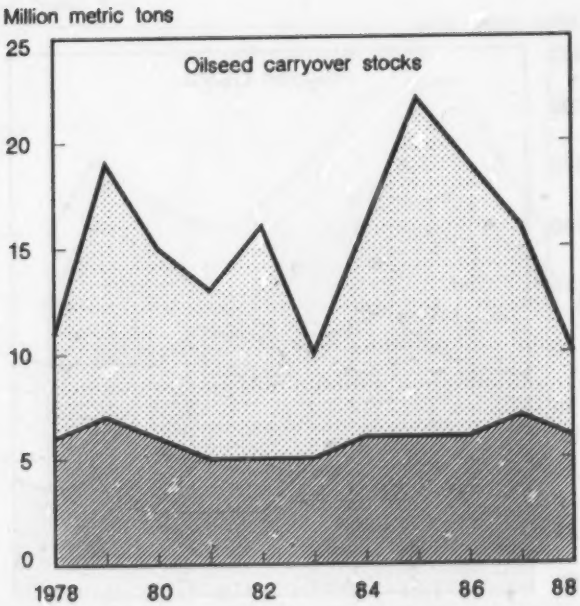
Foreign oilseed production grew during 1988, while U.S. production fell 12 million tons to 49 million. World oilseed use continued to climb, although exports did not fuel that growth to the extent it did in 1987.

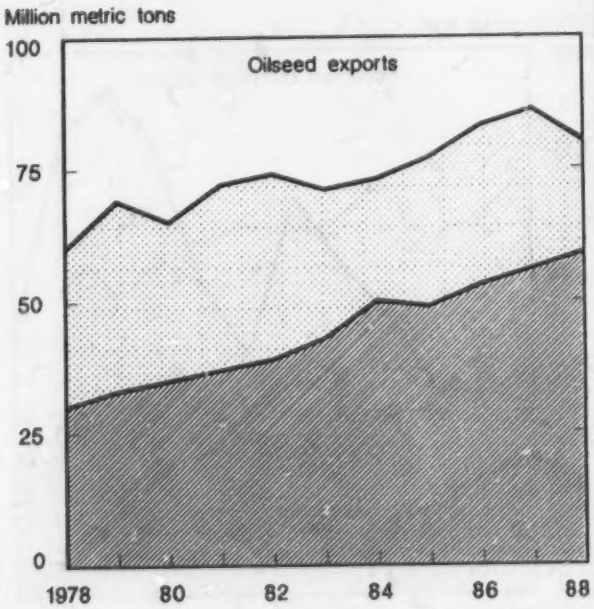
Chart 180

World and U.S. oilseed production, utilization, carryover, and exports









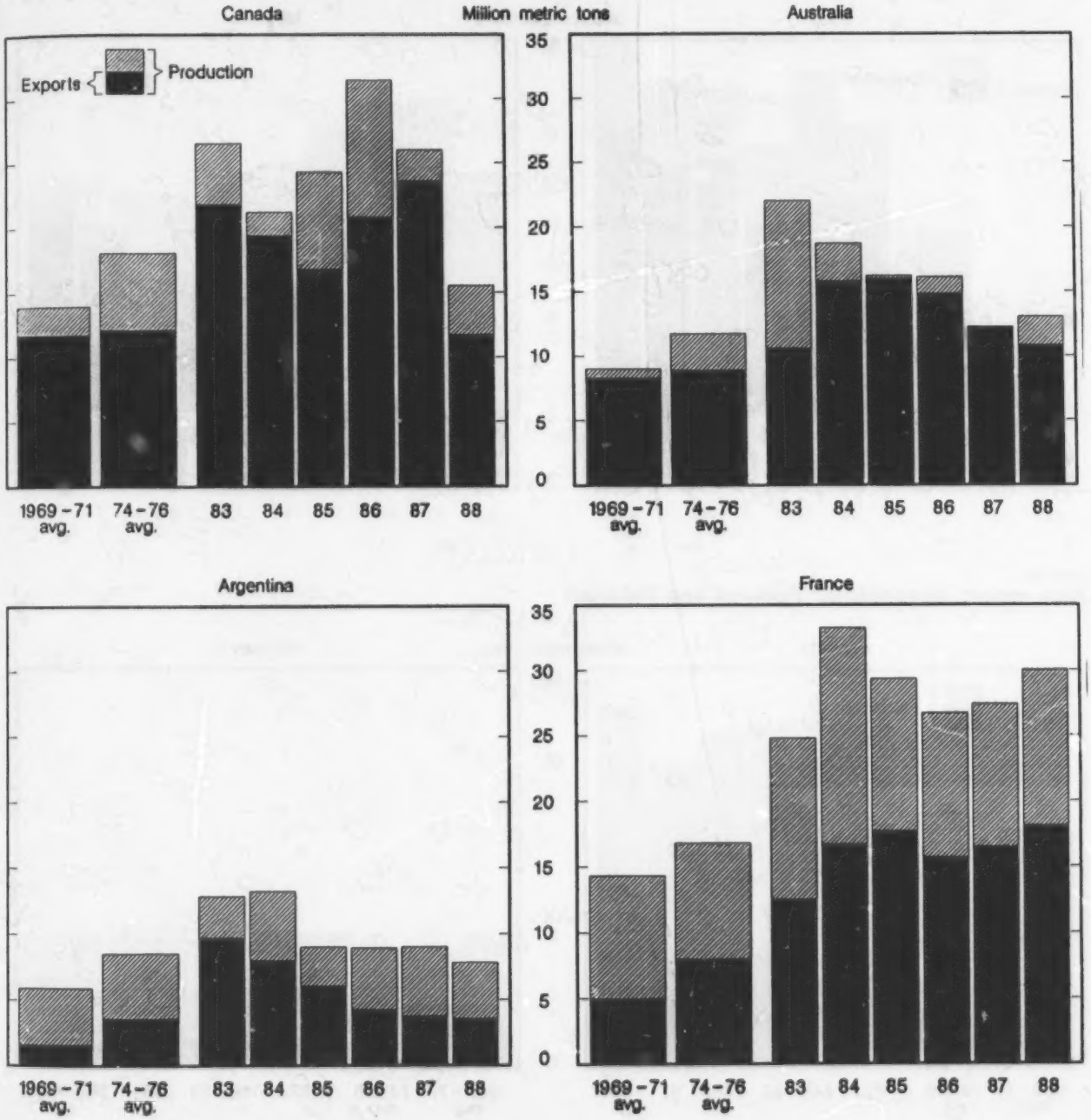
Oilseeds include soybeans, cottonseed, sunflowers, peanuts, and rapeseed.

World Trade

Canada and Australia are both expected to export a smaller share of their wheat crops in 1988. Although Argentina's wheat exports are expected to fall for the fifth straight year, the share of production exported will increase. France will export 60 percent of its 1988 wheat crop.

Chart 181

Wheat export competitors: Canada, Australia, Argentina, and France

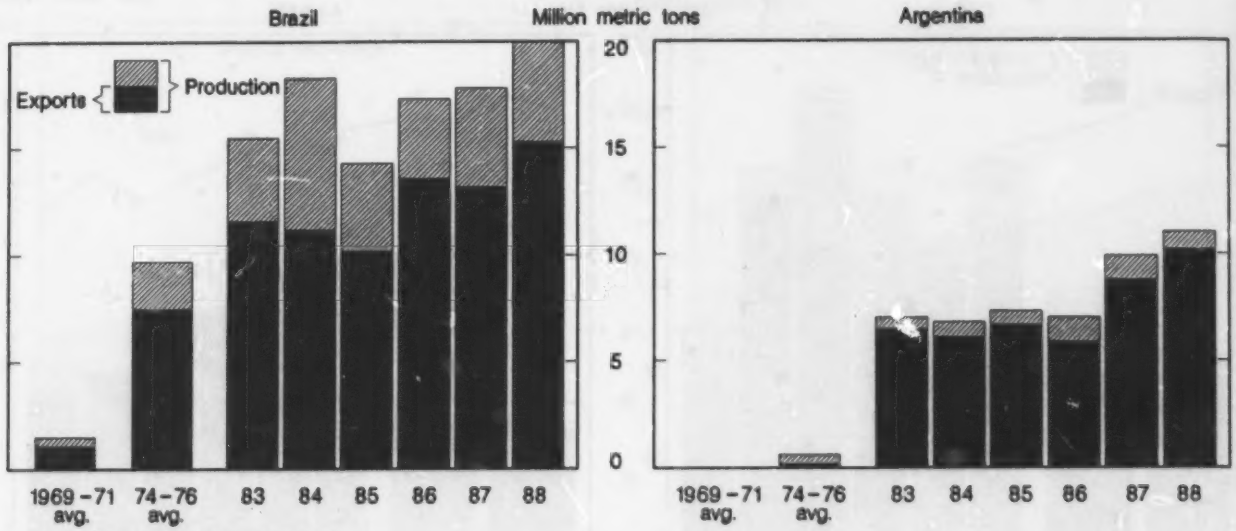


World Trade

Thailand shipped a third of its 1988 crop overseas, compared with 38 percent in 1987 and 20 percent during the mid-1970's. Argentina and Brazil will export 82 percent of their combined soybean output in 1988, primarily crushed product (meal and oil).

Chart 182

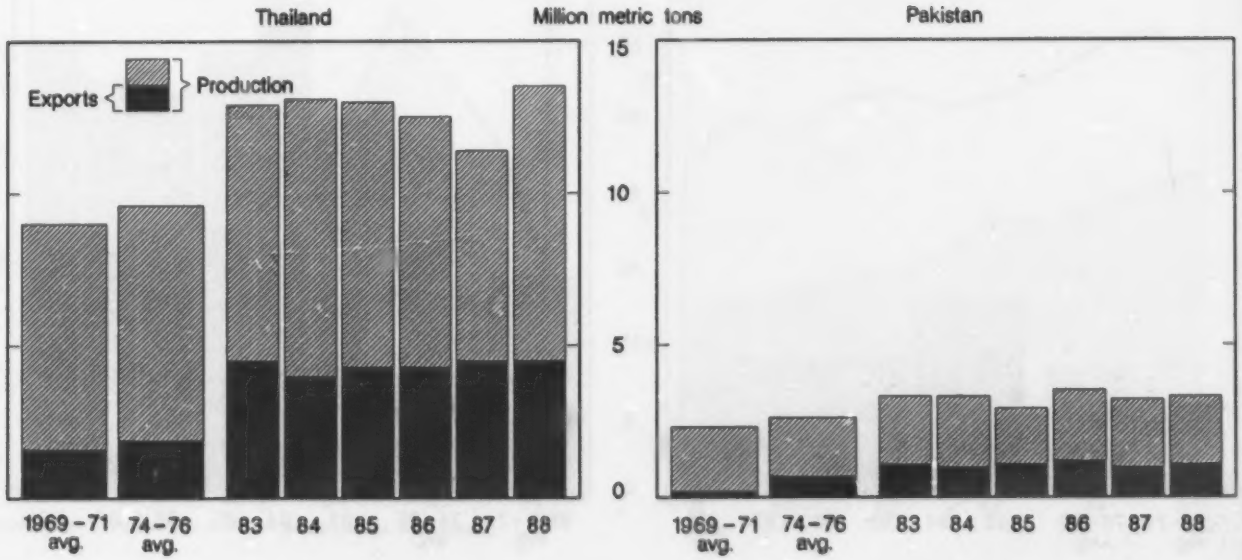
Soybean export competitors: Brazil and Argentina



No commercial production for Argentina, 1969-71.

Chart 183

Rice export competitors: Thailand and Pakistan

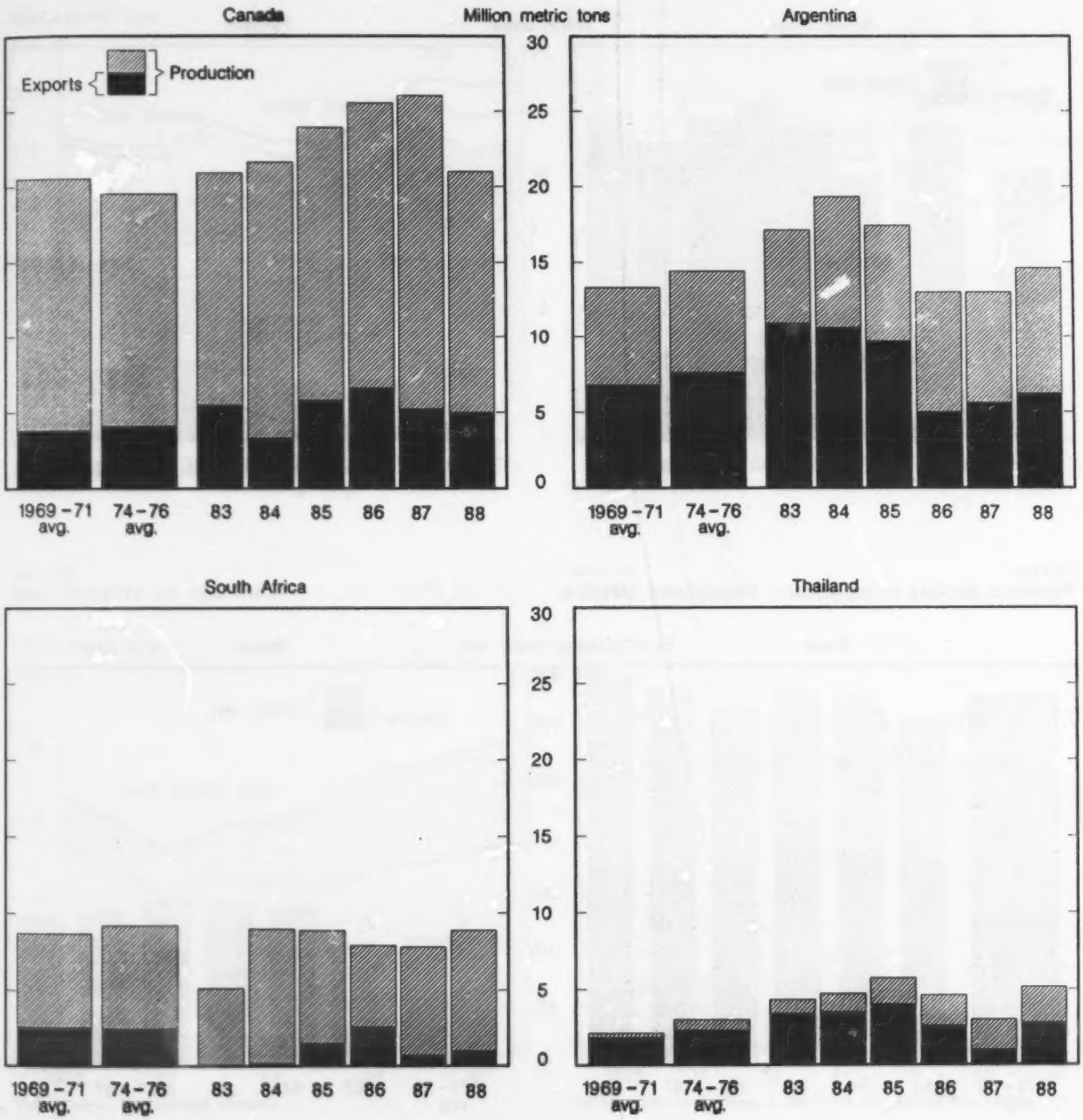


World Trade

Argentina, South Africa, and Thailand all showed increases in coarse grains exports (mostly corn and some sorghum) in 1988, but have not reached previous export levels. Canada, which mainly exports barley, is expected to see a decline in 1988.

Chart 184

Coarse grain export competitors: Canada, Argentina, South Africa, and Thailand



World Trade

Pakistan should export a record 3.2 million bales of cotton in 1988. The Soviet Union should narrowly remain the second largest cotton exporter, just ahead of Pakistan, but well below the U.S. figure of 5 million bales. Greece went from exporting less than 60 percent of its tobacco crop in the late 1970's to 80 percent in the late 1980's.

Chart 185

Cotton export competitors: Soviet Union and Pakistan

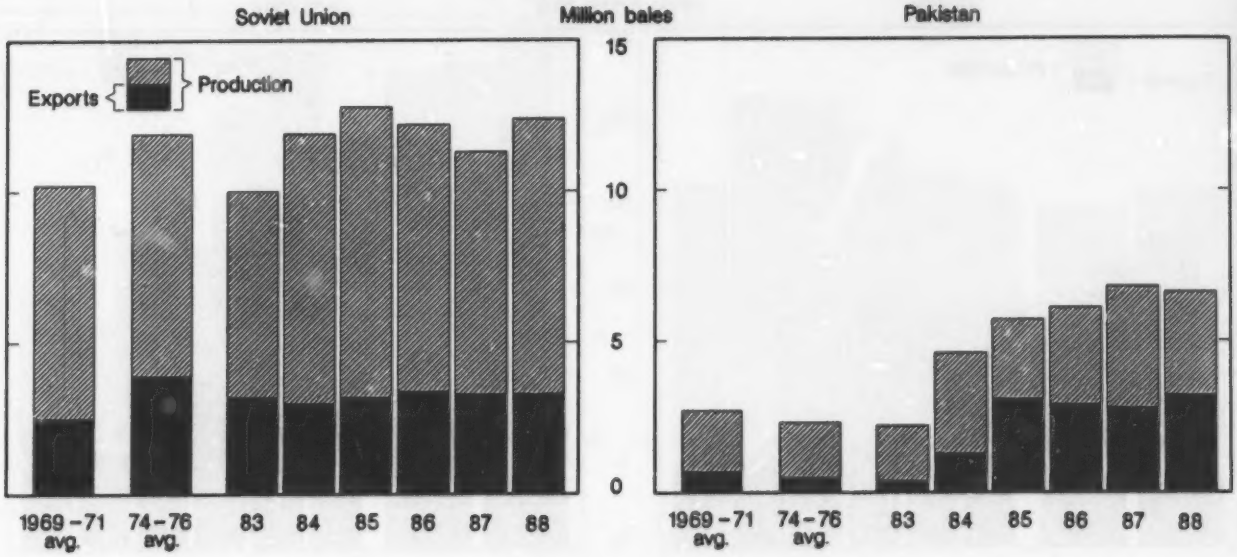
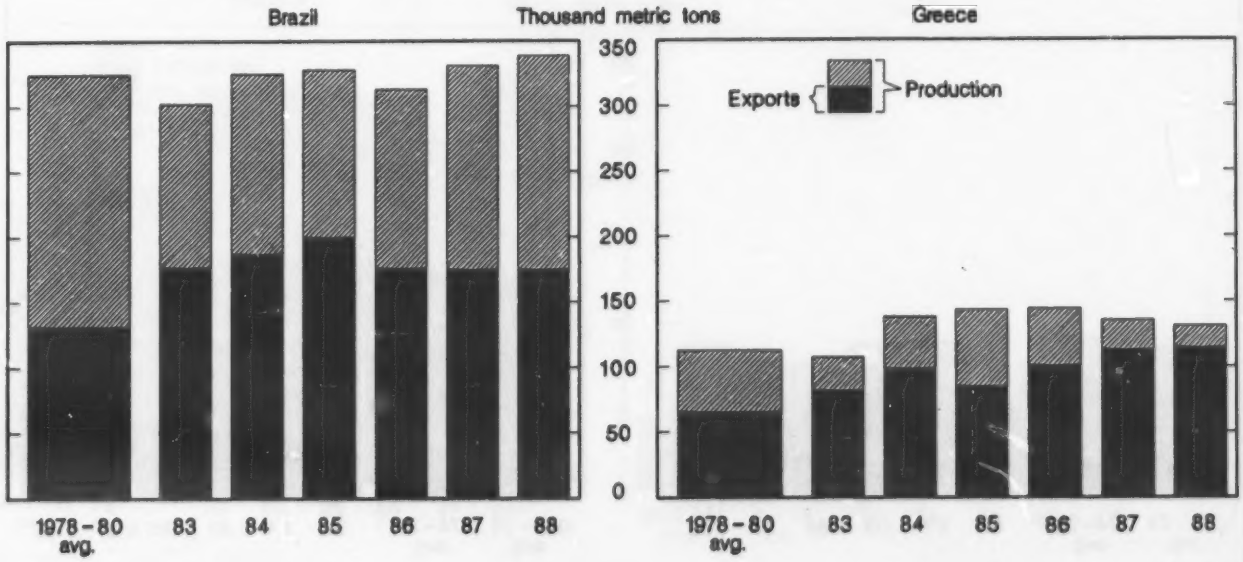


Chart 186

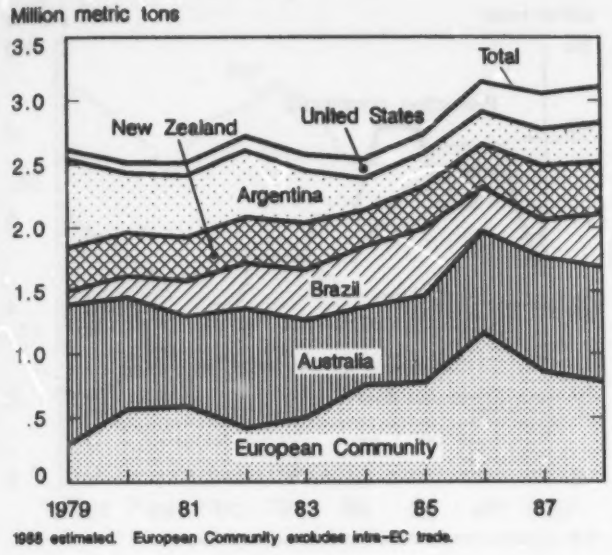
Tobacco export competitors: Brazil and Greece



Livestock

Beef and veal exports of the six major trading countries rose to about 3.1 million metric tons in 1988. Value of U.S. exports of livestock products climbed to over $4 billion in 1987; U.S. imports of red meats increased to about 1.6 million metric tons in 1988. Outlook for 1989 shows dairy cow numbers falling 1 percent while beef cow numbers rise 2 percent.

Chart 187
Beef and veal exports in major trading countries



1988 estimated. European Community excludes intra-EC trade.

Chart 188
U.S. exports of livestock products

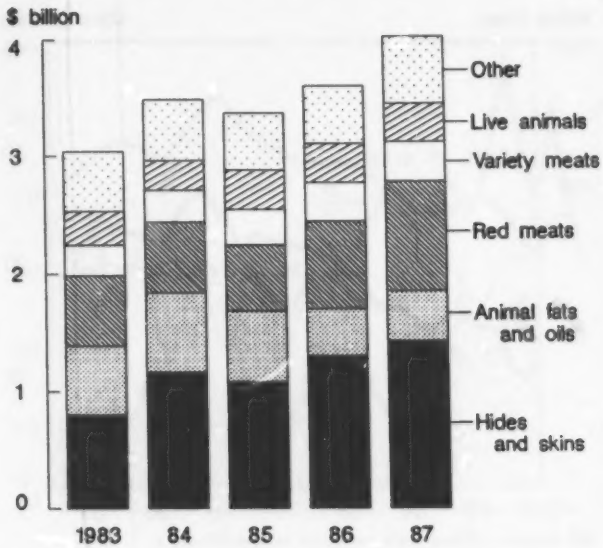
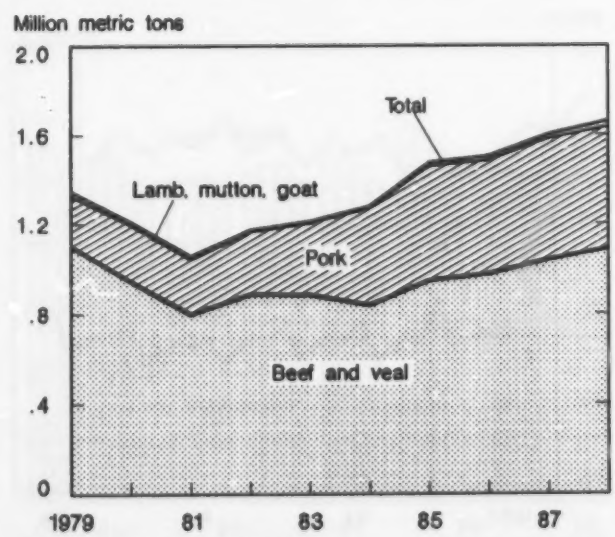
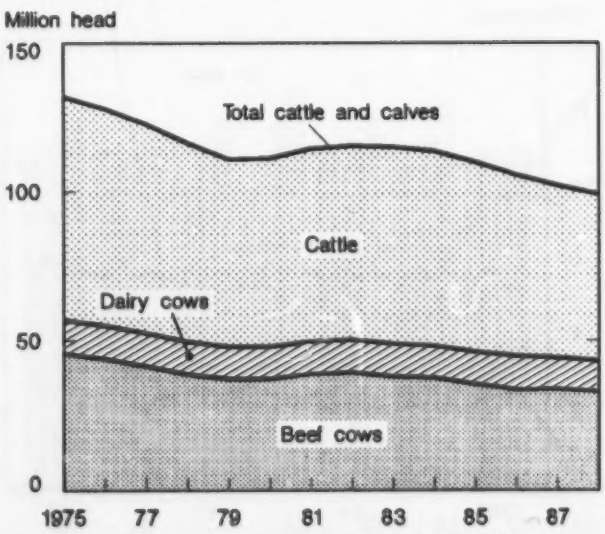


Chart 189
U.S. imports of red meat



1988 estimated. Carcass-weight equivalent.

Chart 190
Cattle on farms

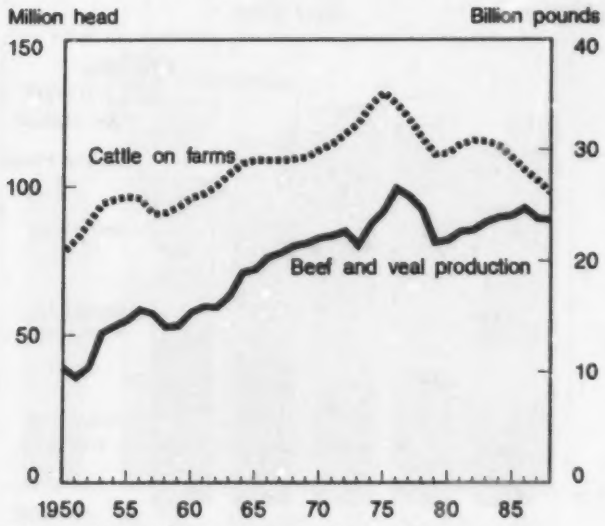


Cattle on farms as of January 1. Beef cows are those that have calved.

Livestock

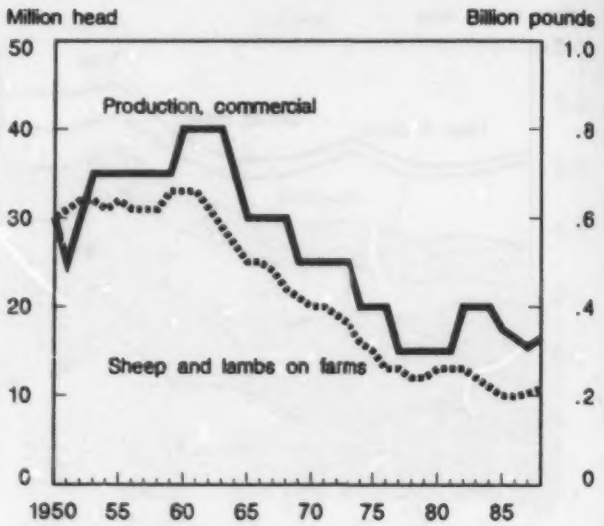
Number of cattle fell in 1988 to 98 million head, while sheep numbers rose to 10.8 million head. Nonfed cattle slaughter will remain down as the cattle inventory begins to stabilize. Fed cattle marketings and the number of cattle on feed remain large despite reduced feeder supplies.

Chart 191
Cattle numbers and beef production



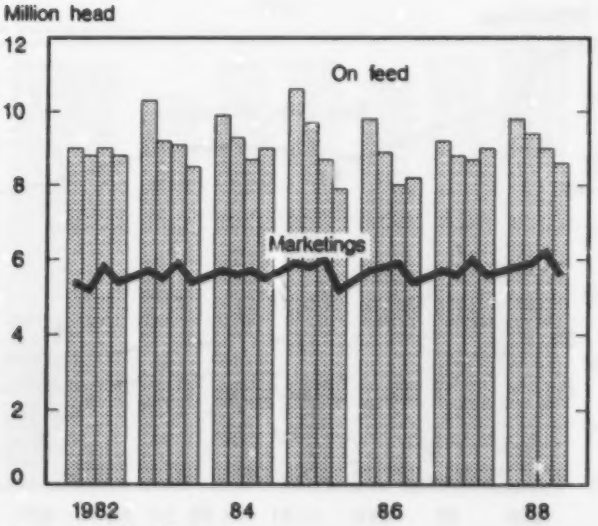
1988 production forecast. Cattle and calves on farms January 1.

Chart 192
Sheep numbers, lamb and mutton production



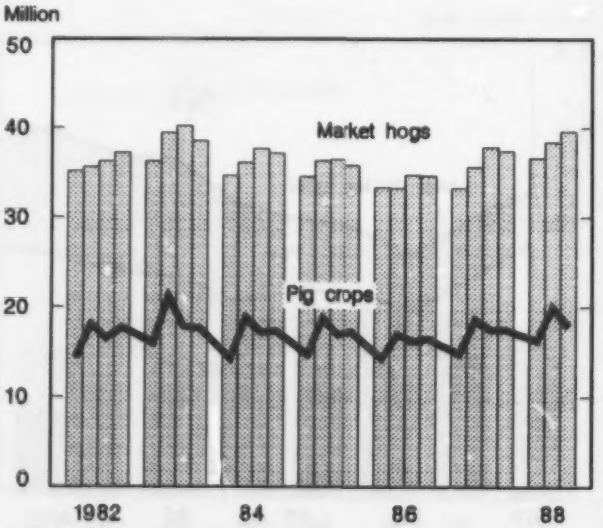
1988 production forecast. Sheep and lambs on farms January 1.

Chart 193
Cattle on feed and marketings



Quarterly data for 13 States.

Chart 194
Market hogs and pig crops

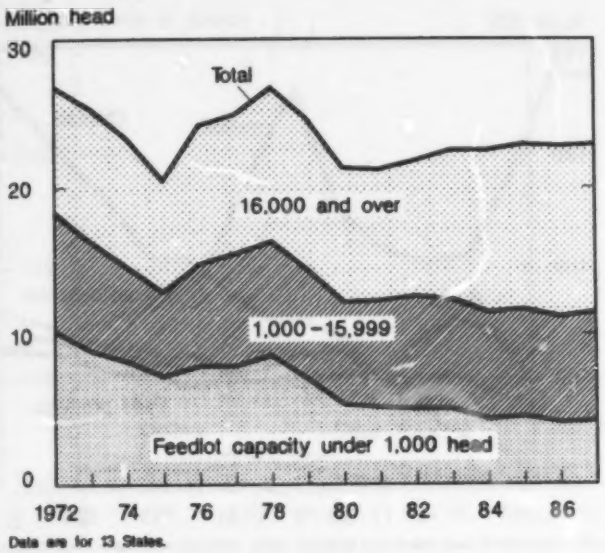


Quarterly data for 10 States.

Livestock

Farm prices for cattle rose in 1988, while hog and lamb prices fell sharply. Pork production rose 9 percent and retail pork prices fell 3 percent. Beef production was unchanged. Strong growth in milk per cow pulled up 1988 milk production despite higher feed costs.

Chart 195
Fed cattle marketed by feedlot capacity



Data are for 13 States.

Chart 196
Livestock prices received by farmers

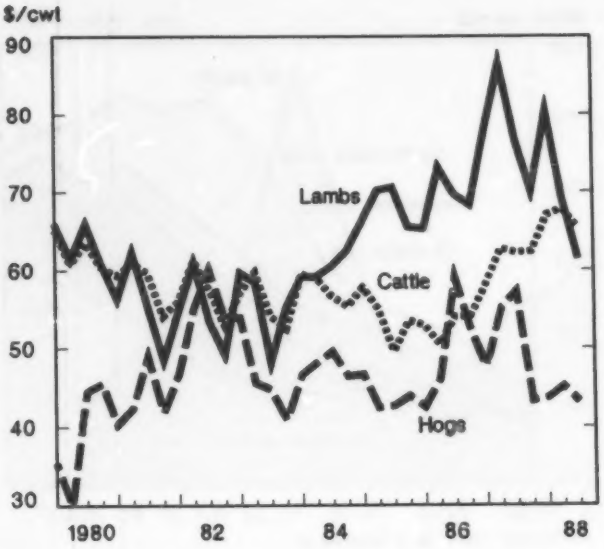
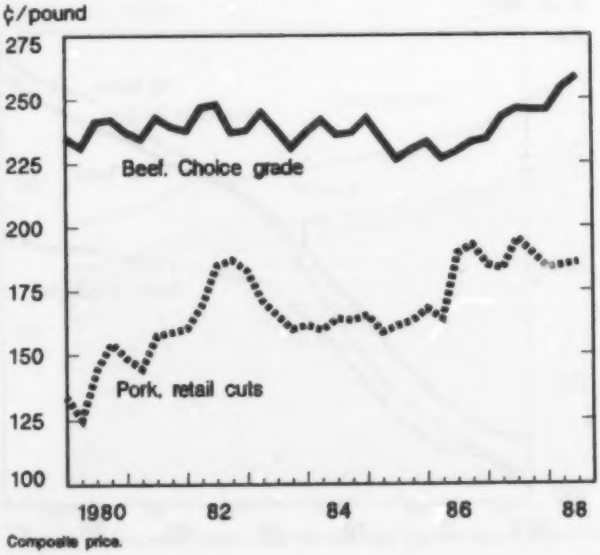
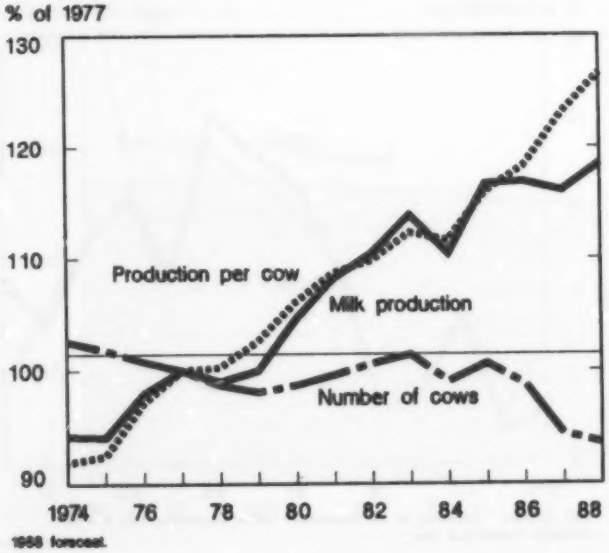


Chart 197
Retail meat prices



Composite price.

Chart 198
Milk production, number of cows, and milk per cow

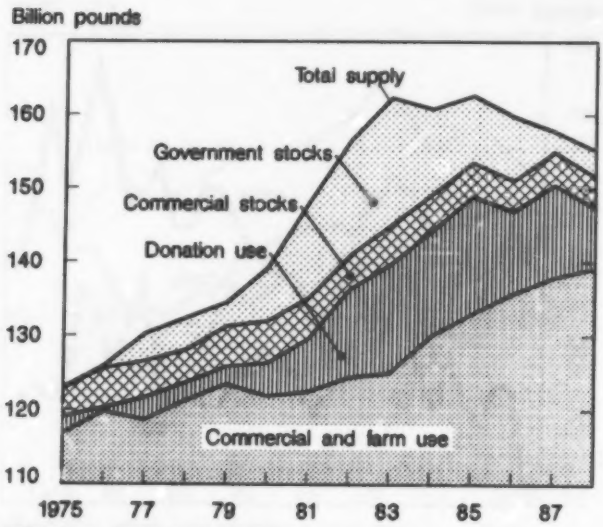


1988 forecast.

Dairy

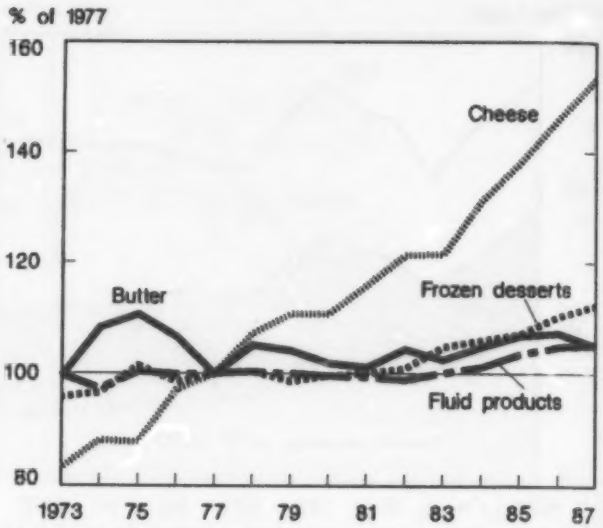
Cheese sales continue to outpace growth in commercial use of other dairy products. 1988 butter purchases rose while removals of nonfat dry milk dropped. Increases in retail dairy prices have steadily lagged increases in other prices during the 1980's.

Chart 199
Milk supply, use, and stocks



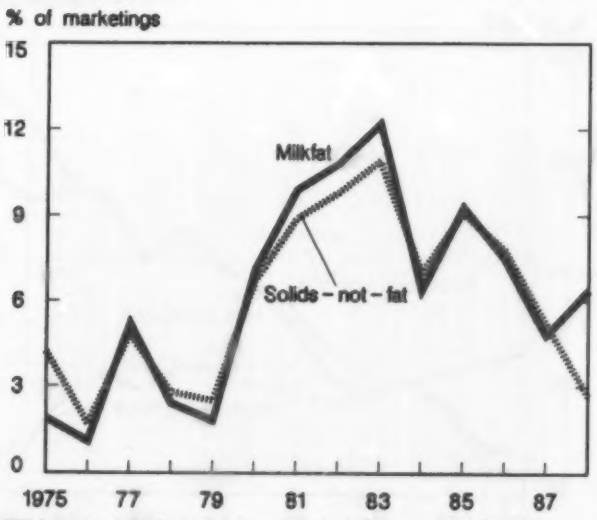
1988 forecast. Stocks as of December 31.

Chart 200
Dairy product sales



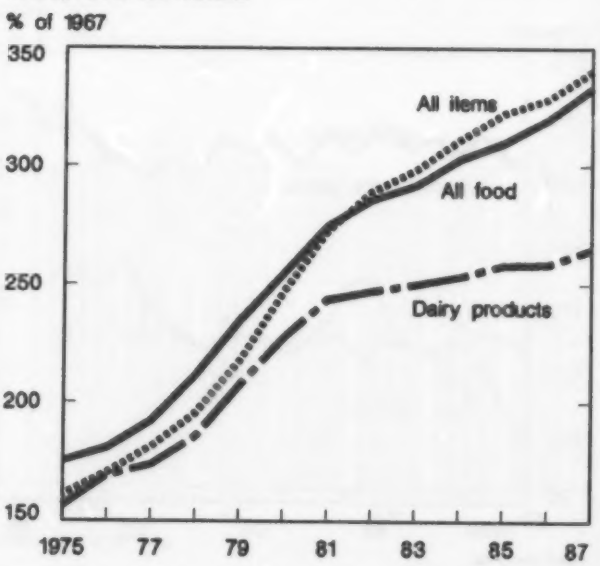
Fluid products include cream and specialty items. Cheese excludes cottage cheese.

Chart 201
Milk solids removed from the market by CCC programs



1988 forecast. Deliveries to the Commodity Credit Corporation (CCC) after domestic unrestricted sales.

Chart 202
Consumer price index for dairy products, food, and all items

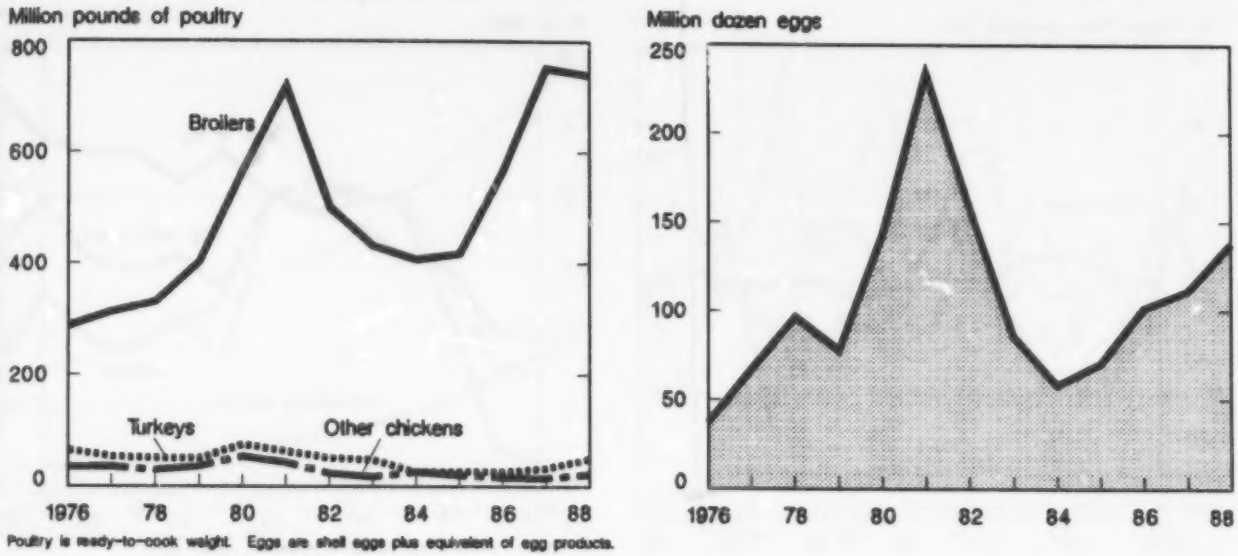


Poultry

While egg exports, assisted by export programs, rose sharply in 1988, broiler exports fell slightly; U.S. prices rose and Export Enhancement Program sales fell. Total poultry consumption rose, with increases in broiler and turkey consumption of 1.4 and 1.1 pounds per person.

Chart 203

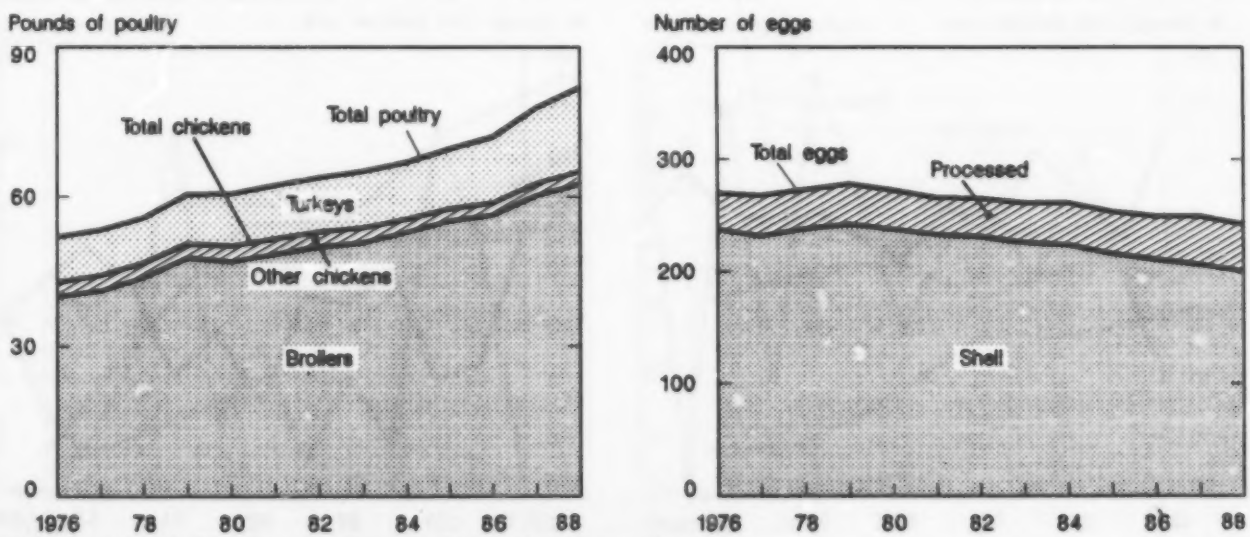
U.S. exports of poultry products



Poultry is ready-to-cook weight. Eggs are shell eggs plus equivalent of egg products.

Chart 204

Per capita consumption of poultry and eggs



Poultry is ready-to-cook weight. Eggs are shell eggs plus shell-egg equivalent of egg products.

Poultry

Wholesale egg prices were little changed in 1988, even as production fell. Reduced layer numbers more than offset an increased rate of lay.

Chart 205

Eggs: Changes in production and wholesale prices

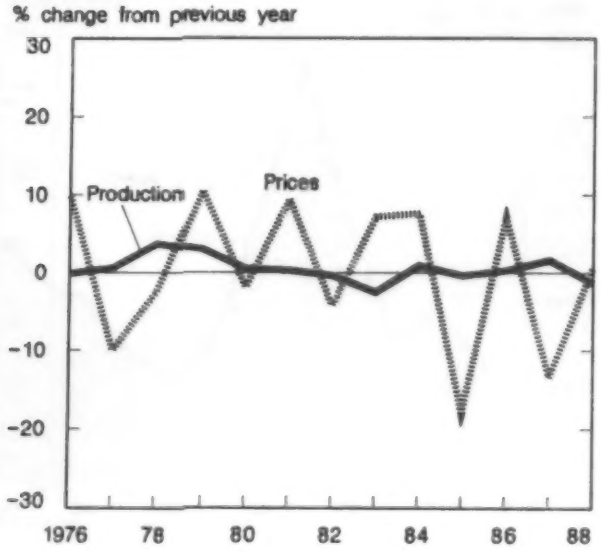
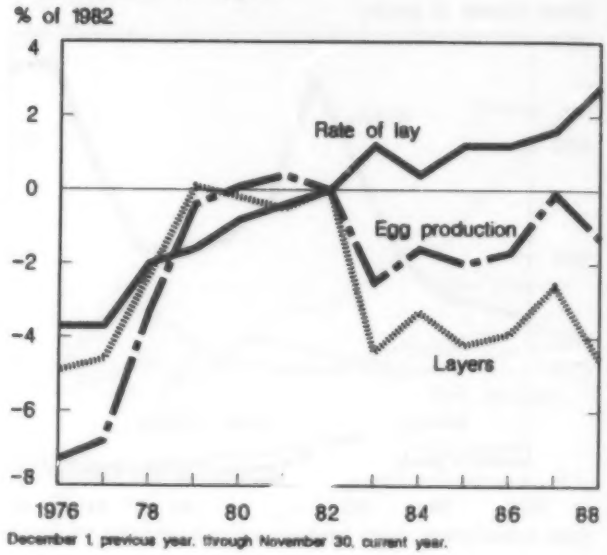


Chart 206

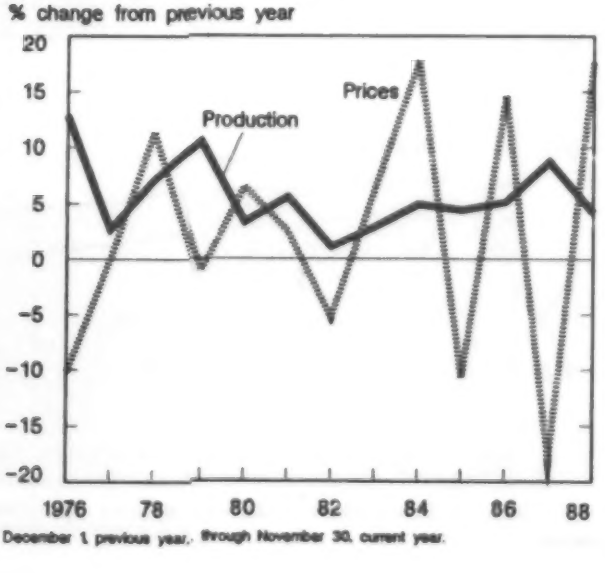
Eggs: Rate of lay, production, and number of layers



December 1, previous year, through November 30, current year.

Chart 207

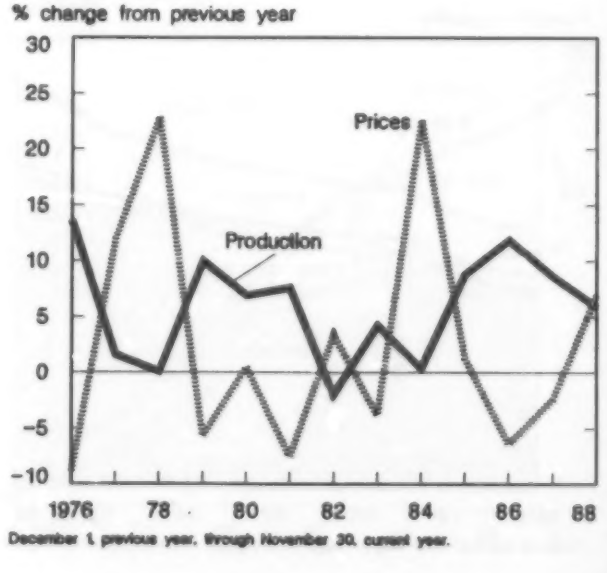
Broilers: Changes in production and 12-city wholesale prices



December 1, previous year, through November 30, current year.

Chart 208

Turkeys: Changes in production and farm prices



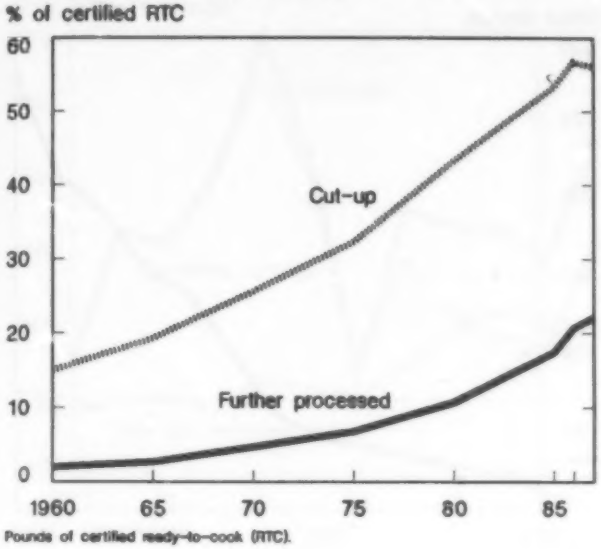
December 1, previous year, through November 30, current year.

Poultry

Sales of young chickens have shifted from whole birds to cut-up parts and further processed products. Further processed chicken products are growing in sales. Double-counting of turkeys could overstate the percentage of cut-up and further processed.

Chart 209

Young chickens: Percentage cut-up and used in further processing



Pounds of certified ready-to-cook (RTC).

Chart 210

Wholesale prices: 12-city broilers and New York hen turkeys

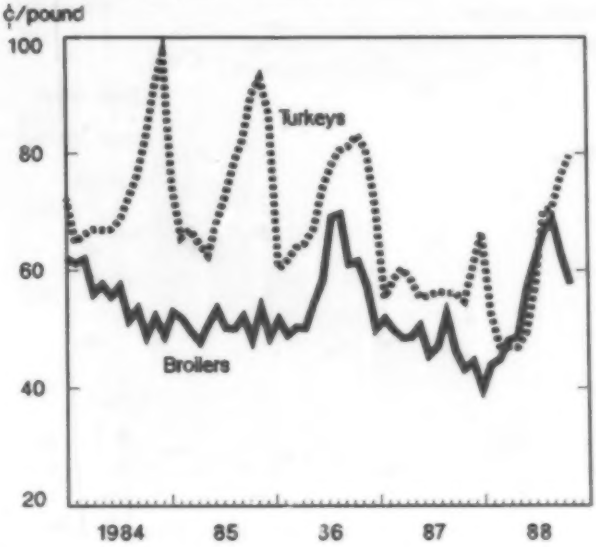
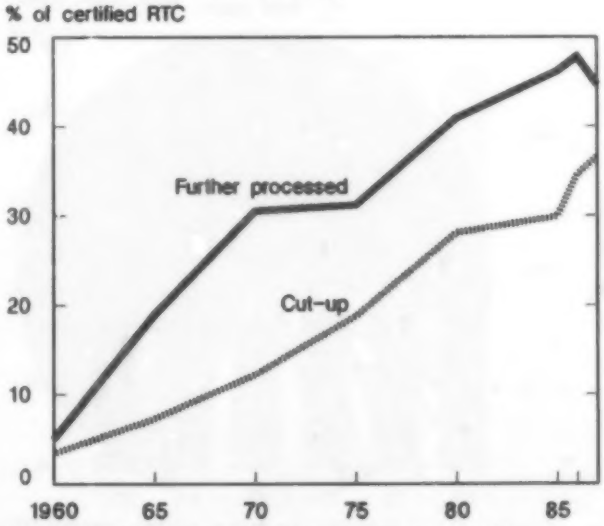


Chart 211

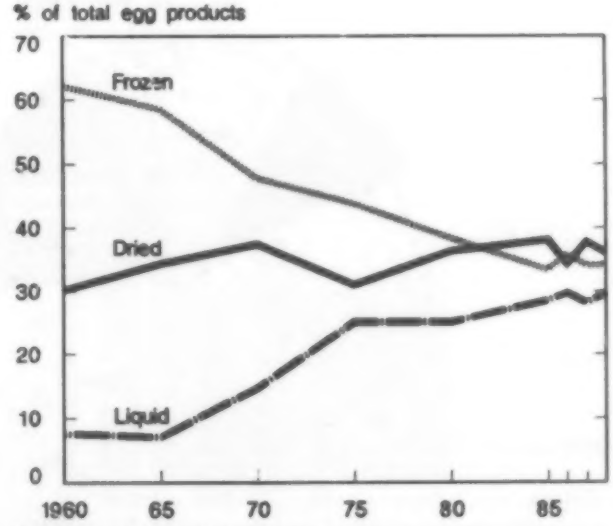
Turkeys: Percentage cut-up and used in further processing



Pounds of certified ready-to-cook (RTC). 1960 cut-up data is for 1962.

Chart 212

Egg products: Percentage frozen, liquid, and dried



Liquid eggs are for those for immediate consumption.

Aquaculture

Domestic production of fish and shellfish was about 750 million pounds in 1987, up 270 percent from 1980; commercial catfish production accounts for about half this production. Catfish production is concentrated in Mississippi, where less than 18 percent of the operators accounted for about 64 percent of the acreage and almost 80 percent of total production.

Chart 213
U.S. aquacultural production

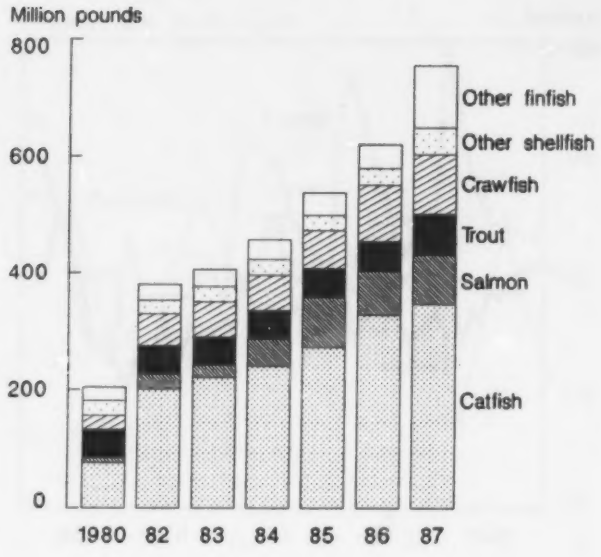


Chart 214
U.S. production of catfish delivered to processors

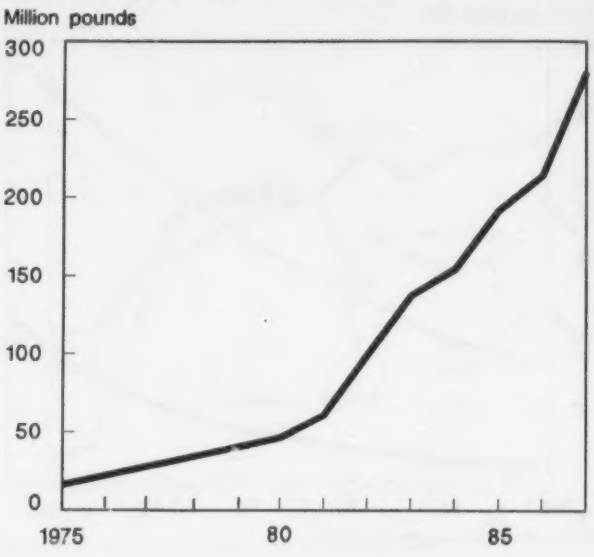
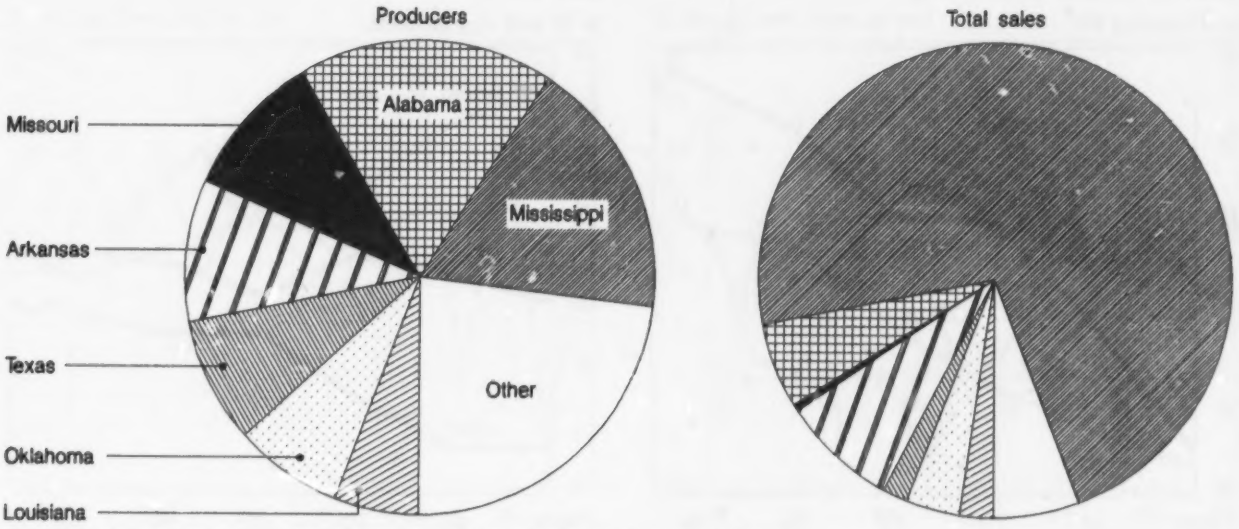


Chart 215
Number of U.S. catfish producers and total sales by State



Other includes California, Florida, Georgia, Kentucky, South Carolina, Tennesse, Idaho, Indiana, Illinois, and Kansas.

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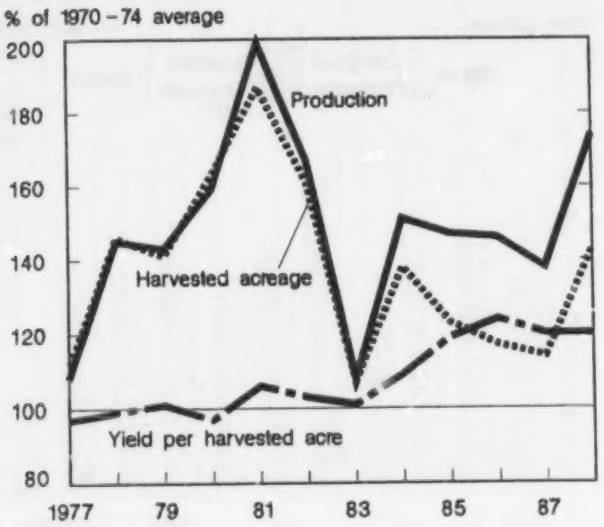
Rice and Other Grains

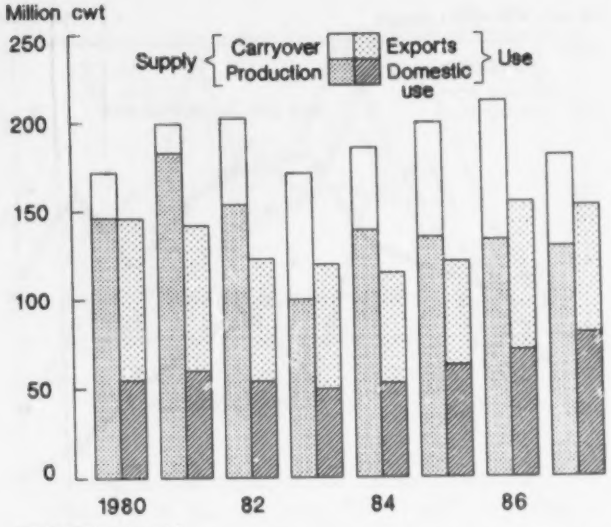
U.S. rice production rebounded in 1988/89 to 160 million cwt (rough), 23 percent above 1987/88 and the highest since 1981/82. Harvested acreage expanded 23 percent from 1987/88. U.S. rice supply was down in 1987/88 because of lower carryin stocks and production. World rice production fell marginally from 1986. World coarse grain exports recovered in 1987.

Chart 216
U.S. rice acreage, yield, and production



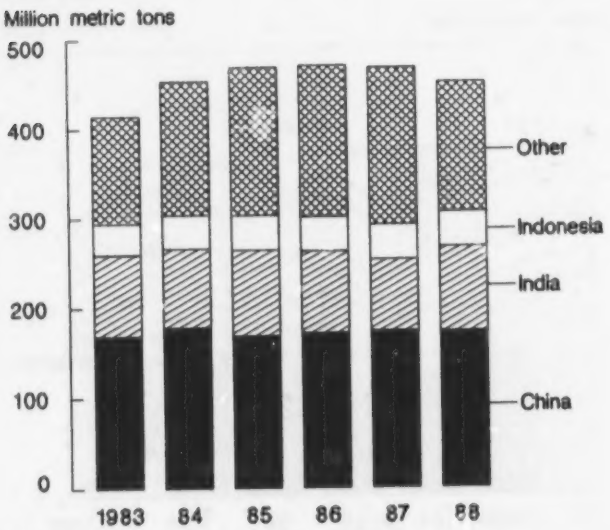
August 1, 1988, indications.

Chart 217
U.S. rough rice supply and use



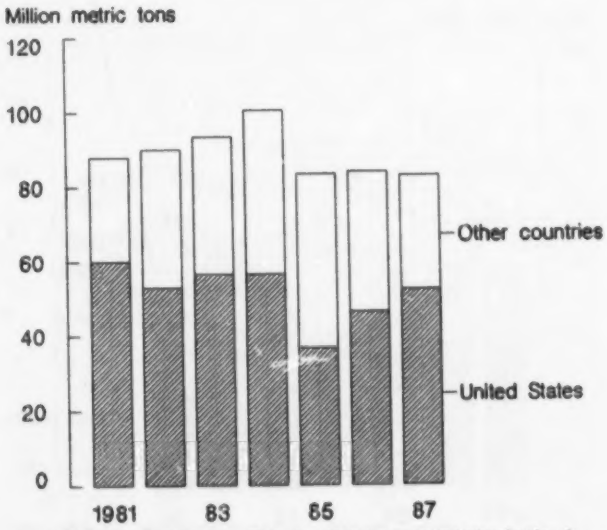
Year beginning August 1.

Chart 218
Major rice producers



1988 preliminary. Data are for rough rice. Crop years.

Chart 219
World exports of coarse grains

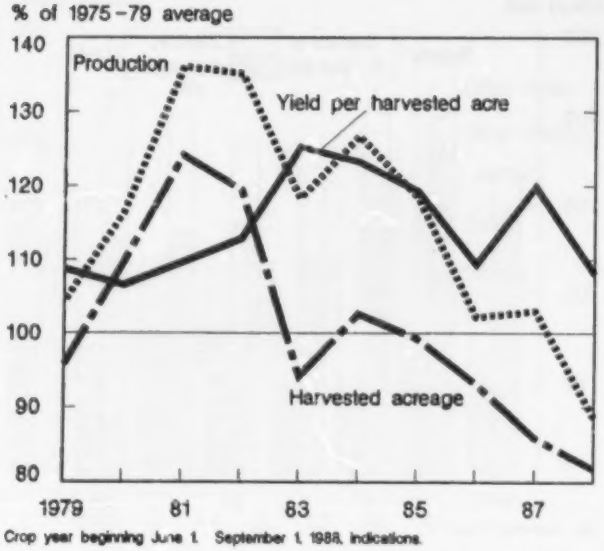


1987 preliminary. Excludes intra-EC trade. Marketing year beginning October 1.

Wheat

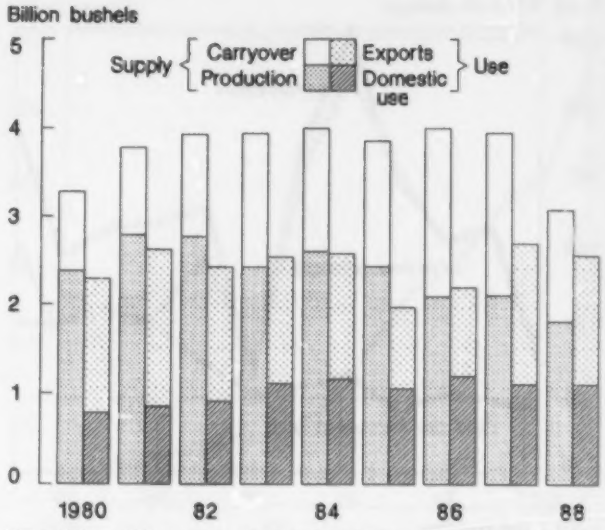
Heavy participation in the U.S. acreage reduction and conservation reserve programs, along with the drought, led to declining harvested acreage and production. U.S. wheat exports recovered in 1987/88, but world wheat exports are expected to decline in 1988/89, with reduced shipments from Canada and the United States due to reduced harvests.

Chart 220
U.S. wheat acreage, yield, and production



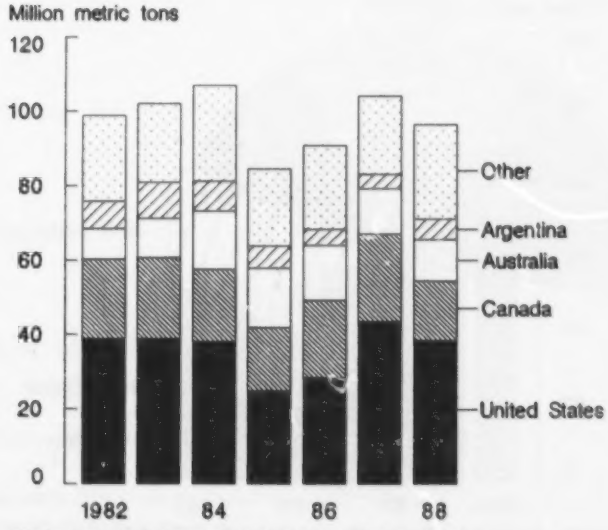
Crop year beginning June 1. September 1, 1988, indications.

Chart 221
U.S. wheat supply and use



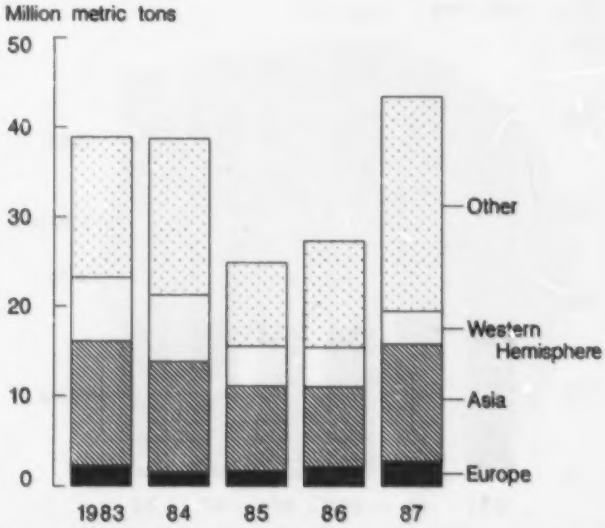
1987 preliminary, 1988 projected. Supply includes imports. Year beginning June 1.

Chart 222
Major wheat exporters



1988 forecast. Marketing year beginning July 1. Grain equivalent.

Chart 223
Destination of U.S. wheat exports

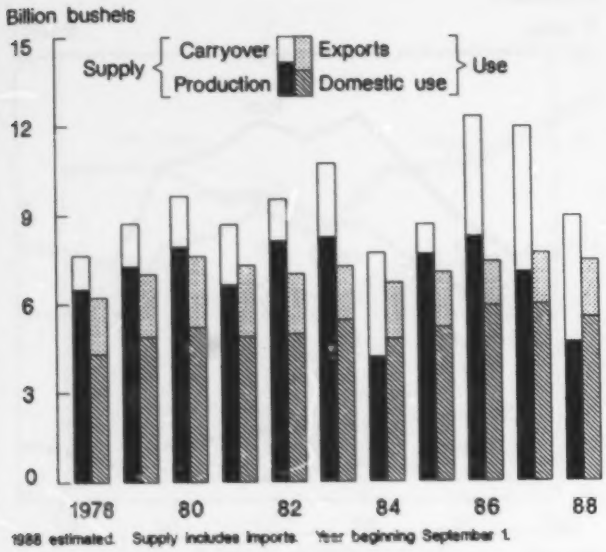


Marketing year beginning June 1. Grain equivalent.

Coarse Grains

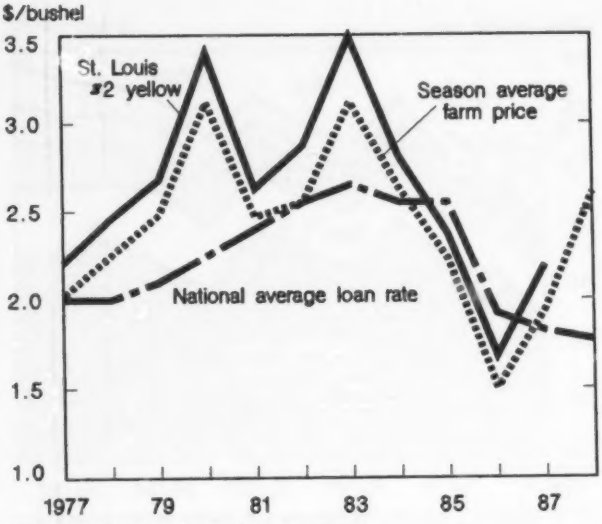
Drought reduced the corn supply for 1988 to 9.2 billion bushels, down 23 percent from 12 billion in 1987. The farm price will average substantially higher during 1988/89 and feed concentrate use, including high protein feeds, is expected to decline.

Chart 224
U.S. corn supply and use



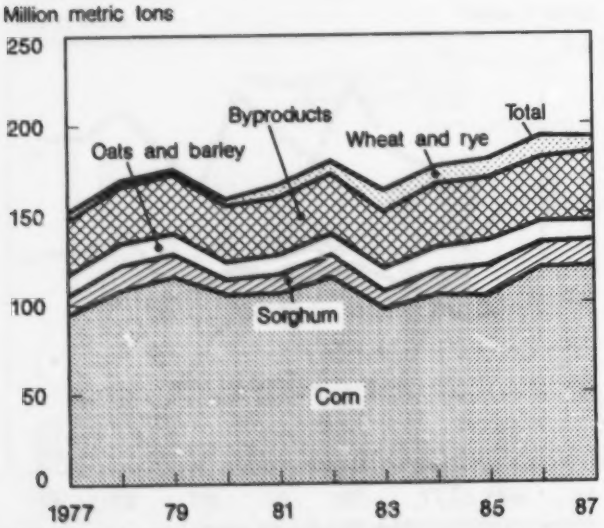
1988 estimated. Supply includes imports. Year beginning September 1.

Chart 225
U.S. corn prices



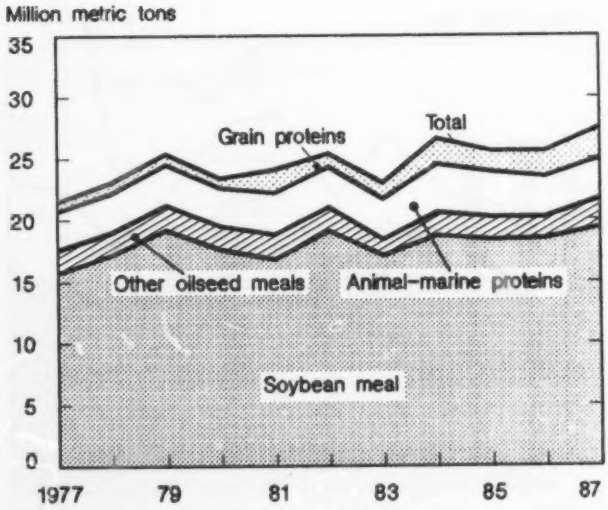
1988 range projected. Year beginning September 1.

Chart 226
Feed concentrates fed to livestock and poultry



Year beginning September 1.

Chart 227
High-protein feed use

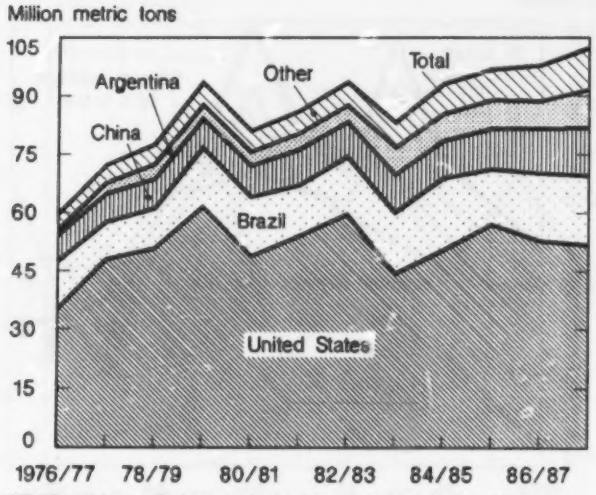


1987 preliminary. Year beginning October 1. 44-percent crude protein equivalent.

Soybeans

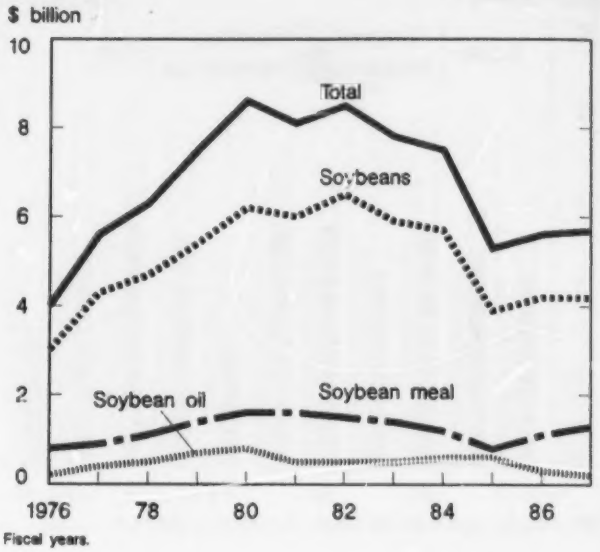
World soybean production rose almost 5 percent in 1987/88 to 102.4 million metric tons. U.S. soybean production, acreage, and carryover fell in 1987. Value of U.S. soybean and product exports was $5.7 billion in fiscal 1987, up 2 percent from the previous year. Soybean shipments to the EC rose nearly 13 percent from 1985/86.

Chart 228
Major soybean producers



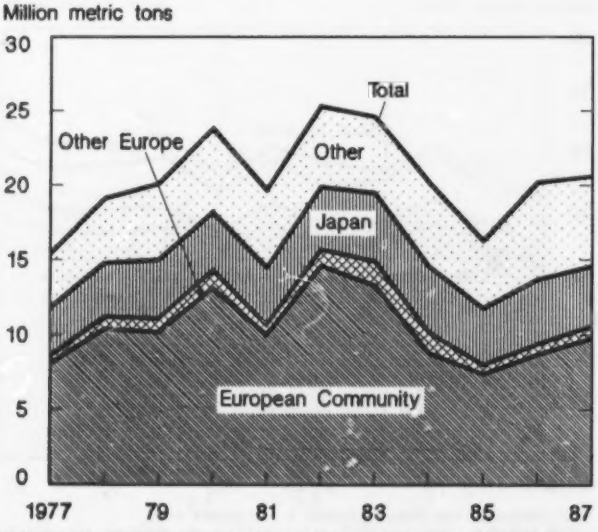
1987/88 preliminary. Soybean production split year includes Northern Hemisphere crops harvested in the last months of the first year shown and Southern Hemisphere crops harvested early in the following year.

Chart 229
Value of U.S. exports of soybeans and products



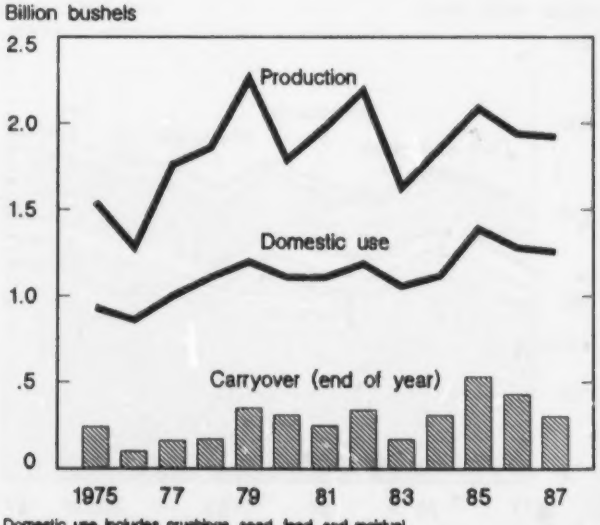
Fiscal years.

Chart 230
Destination of U.S. soybean exports



Marketing year September–August. Other includes Canada and the Soviet Union.

Chart 231
U.S. soybean production, use, and carryover

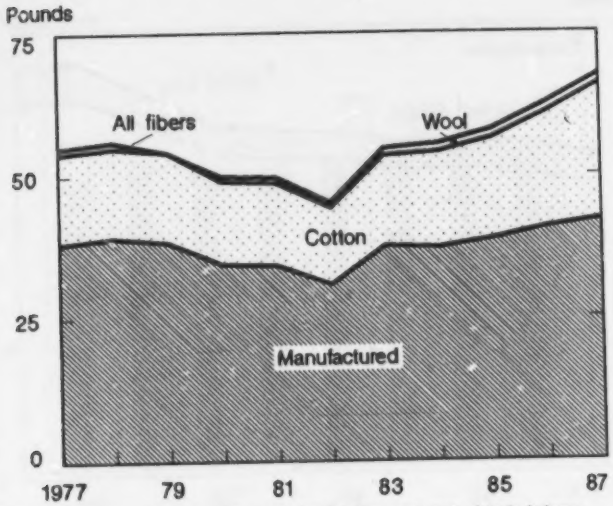


Domestic use includes crushings, seed, feed, and residual.
Year beginning September 1.

Fibers

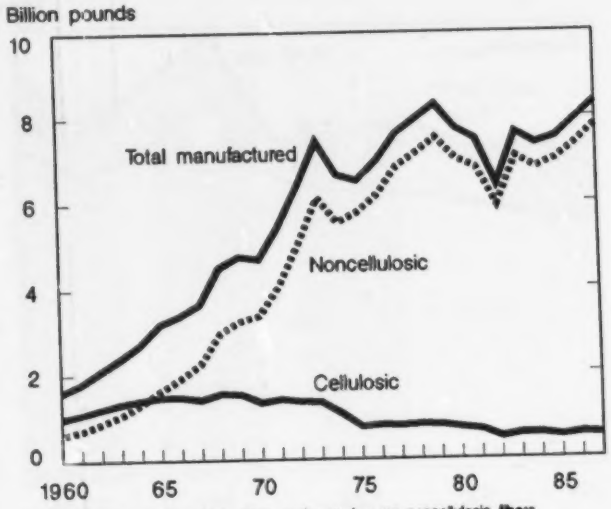
U.S. per capita domestic consumption of all fibers in 1987 was a record high 71 pounds. Improved consumer demand resulted in larger fiber shipments in 1987. U.S. cotton production in 1987/88 was 52 percent higher than the previous year. U.S. cotton exports held steady during 1987, while foreign exports fell as several major exporters reduced output due to adverse weather.

Chart 232
U.S. per capita consumption of fibers



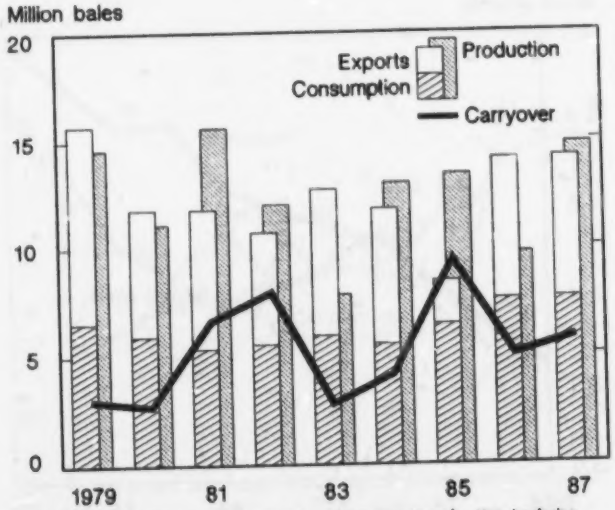
1987 preliminary. Mill consumption adjusted for fiber equivalent of trade balance in textile manufactures. All fibers do not include flax and silk.

Chart 233
U.S. shipments of manufactured fiber



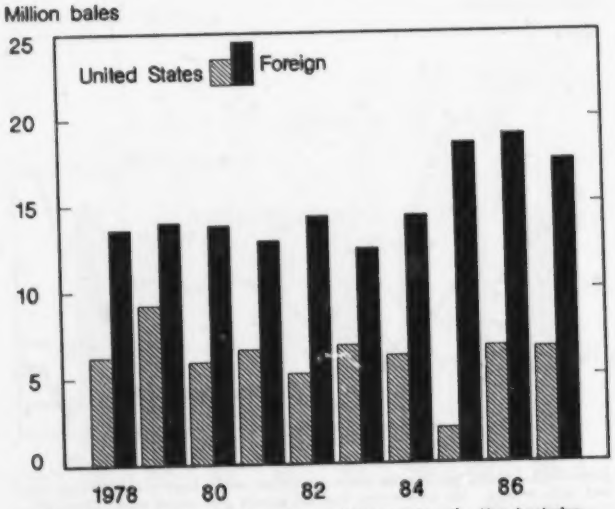
Nylon, polyester, acrylic, olefin, glass, and spandex are noncellulosic fibers. Rayon and acetate are cellulosic fibers. Shipments to domestic customers.

Chart 234
U.S. cotton production, use, and carryover



1987 preliminary. Bales of 0.218 metric tons (480 pounds net). Year beginning August 1. Ending carryover.

Chart 235
World cotton exports



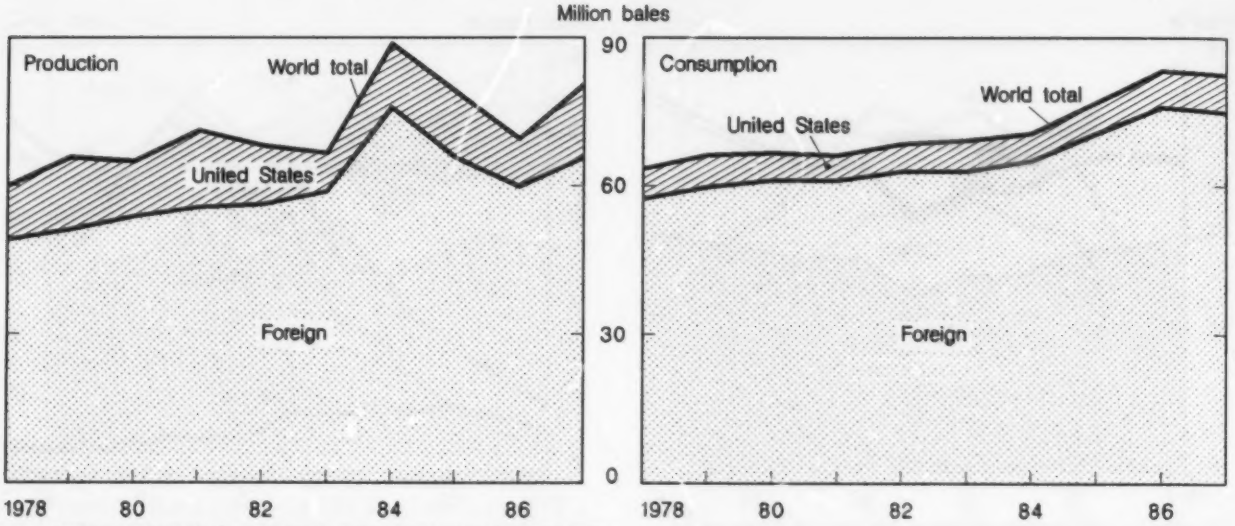
1987 preliminary. Bales of 0.218 metric tons (480 pounds net). Year beginning August 1.

Fibers

World cotton production surged in 1987, while U.S. production reached 14.76 million bales with a record yield of 706 pounds per acre. Larger mill consumption of raw wool in 1987 led to the highest raw wool imports since the early 1970's. Continued strong raw wool demand led to higher raw wool consumption in 1987. Favorable economics resulted in larger flocks and increased wool output.

Chart 236

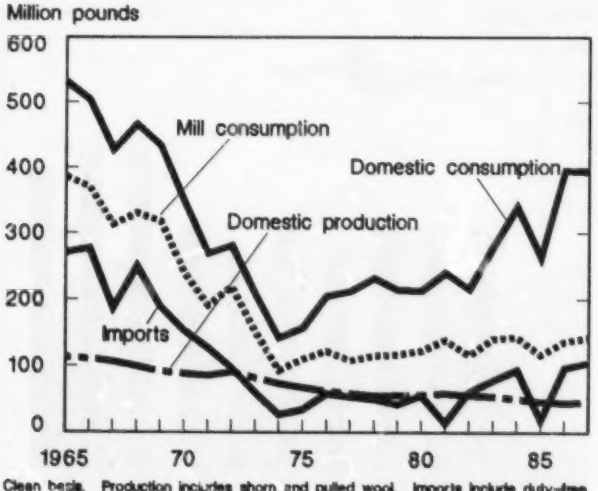
World cotton production and consumption



1987 preliminary. Bales of 0.218 metric tons (480 pounds net). Year beginning August 1.

Chart 237

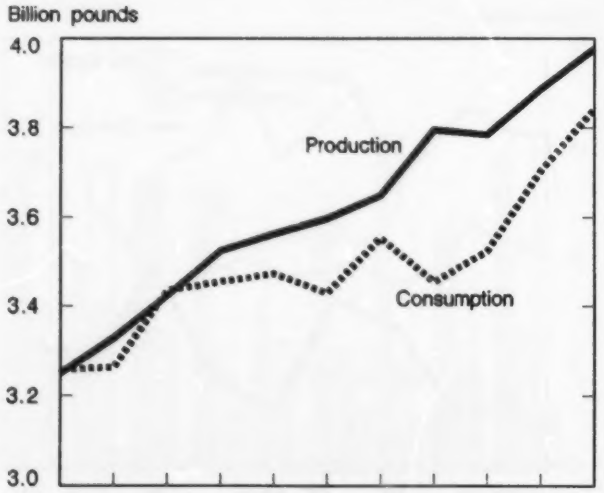
U.S. production, imports, and consumption of raw wool



Clean basis. Production includes shorn and pulled wool. Imports include duty-free and dutiable wool. Mill consumption includes apparel and carpet wool. Domestic consumption includes mill consumption plus raw wool equivalent of net textile trade balance.

Chart 238

World production and consumption of raw wool

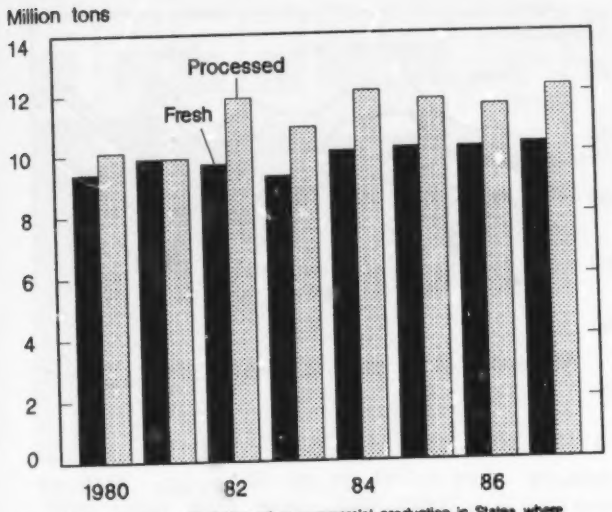


1987 preliminary. Clean content weight. Production data on a marketing basis.

Vegetables

Total production of fresh and processed vegetables rose 3 percent in 1987 to 23.2 million tons. Value of U.S. fresh vegetable exports were up 15 percent in 1987; lettuce, onions, and tomatoes are the principal fresh vegetables exported. Processing output rose 5 percent, while increased output of carrots and onions helped fresh output grow just under 2 percent.

Chart 239
Fresh and processed vegetable production



Fresh includes melons. Excludes other commercial production in States where estimates are not made separately.

Chart 240
Destination of U.S. fresh vegetable exports

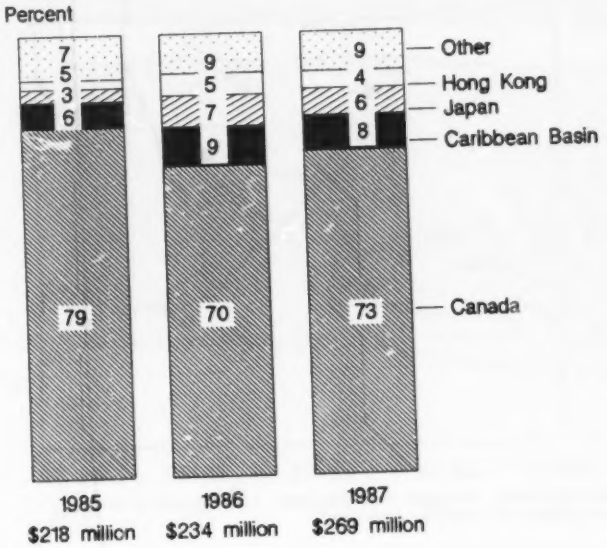
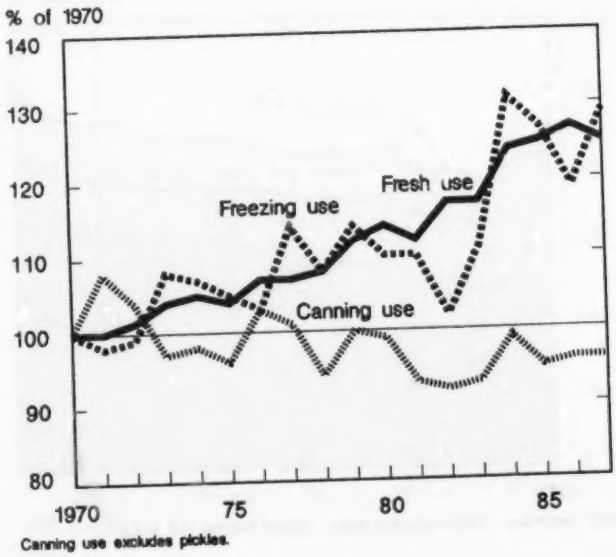
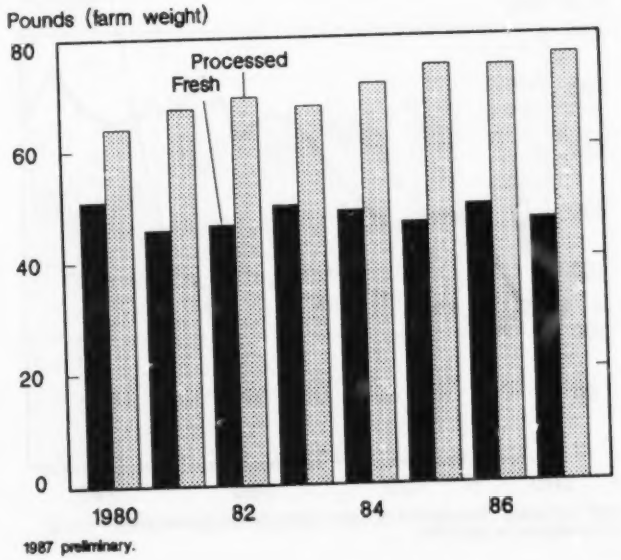


Chart 241
Per capita use of vegetables



Canning use excludes pickles.

Chart 242
Per capita utilization of potatoes

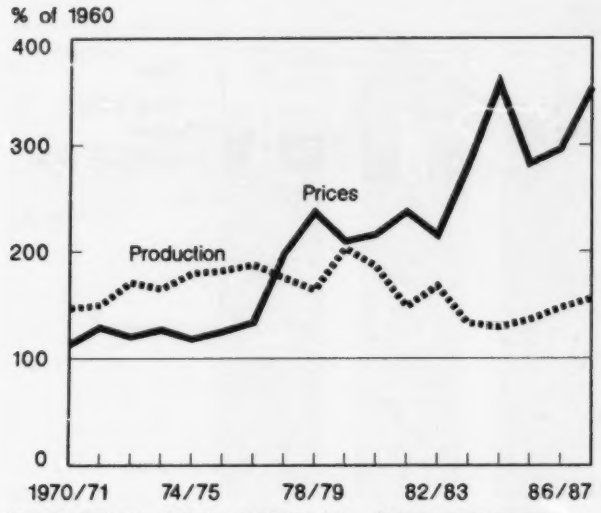


1987 preliminary.

Fruit

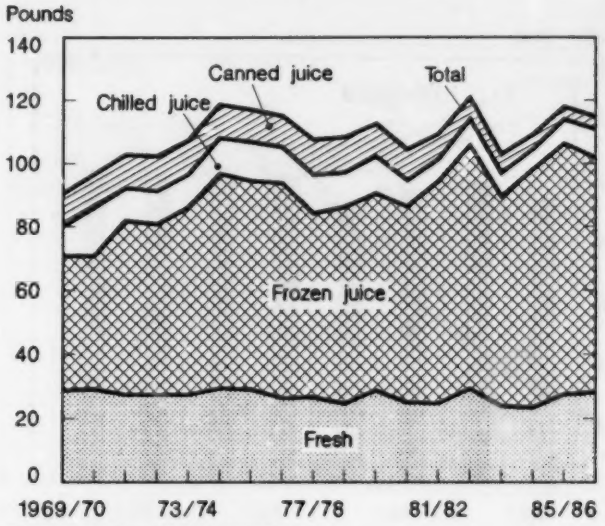
Citrus fruit production in 1987/88 totaled 12.6 million tons, up 6 percent from 1986/87, while per capita consumption fell almost 3 pounds, due primarily to reduced frozen juice consumption. Noncitrus production totaled 15.4 million short tons, up 4 percent from 1987, while per capita consumption reached a record 102 pounds in 1987.

Chart 243
Citrus fruit production and farm prices



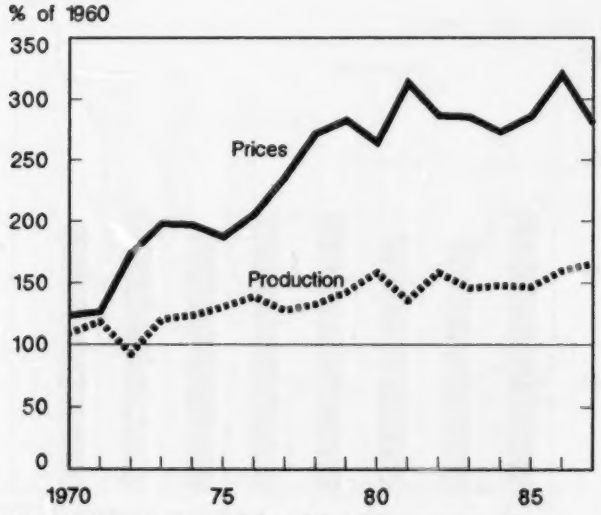
1987/88 preliminary. Production of all citrus fruits. Season average growers' prices weighted by production. Crop years.

Chart 244
Per capita consumption of citrus fruit



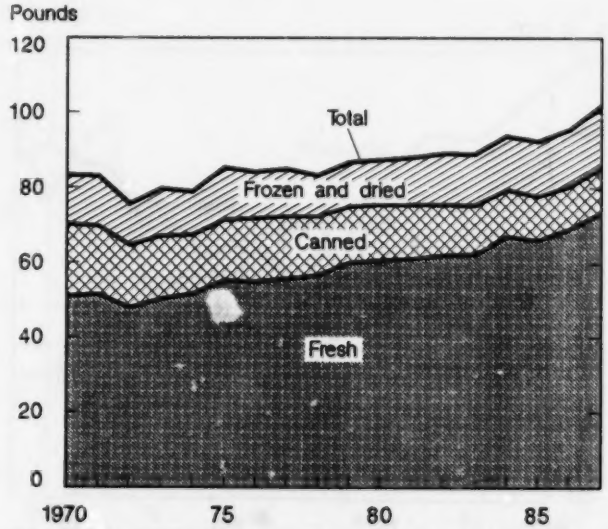
1986/87 preliminary. Fresh-equivalent basis.

Chart 245
Noncitrus fruit production and farm prices



1987 preliminary. Production of 15 major fruits. Season average growers' price weighted by production.

Chart 246
Per capita consumption of noncitrus fruit



1987 preliminary. Fresh-equivalent basis. Canned includes fruit and juice.

Fruit and Tree Nuts

U.S. fresh fruit exports in 1987 rose 10 percent, with increased shipments to Japan and Western Europe. Total bearing acreage of all citrus, noncitrus fruits, and tree nuts in 1987 was slightly higher than in 1986. Citrus rebounded; apples and some specialty fruits increased; grapes, peaches, and pears fell; and tree nuts were steady. U.S. tree nut production totaled nearly 957,000 tons; export sales to the EC rose nearly a third.

Chart 247
Destination of U.S. fresh fruit exports

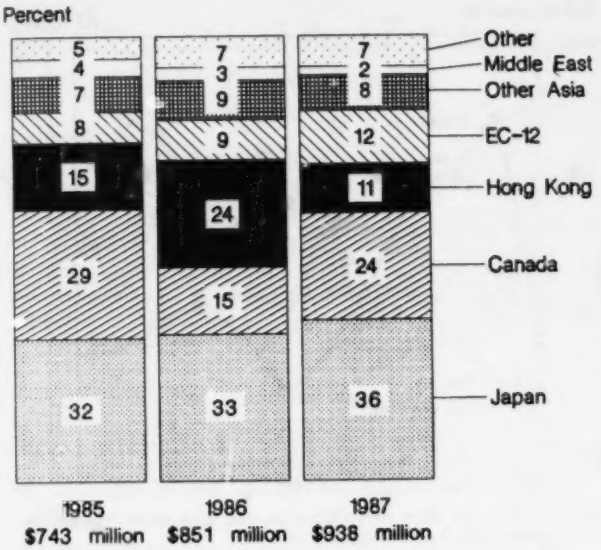


Chart 248
Fruit and tree nuts bearing acreage

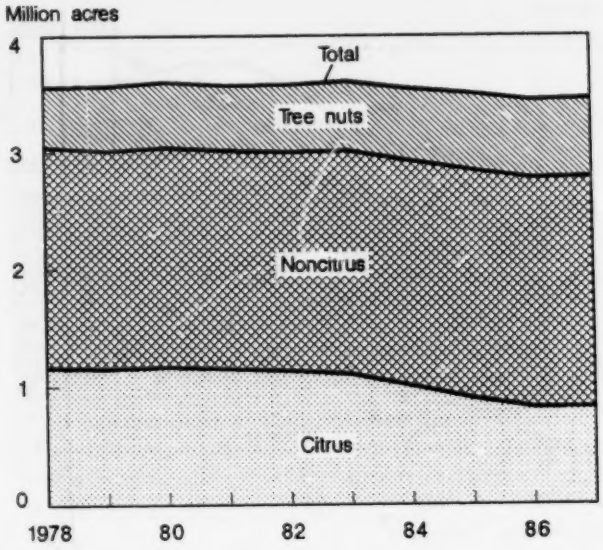
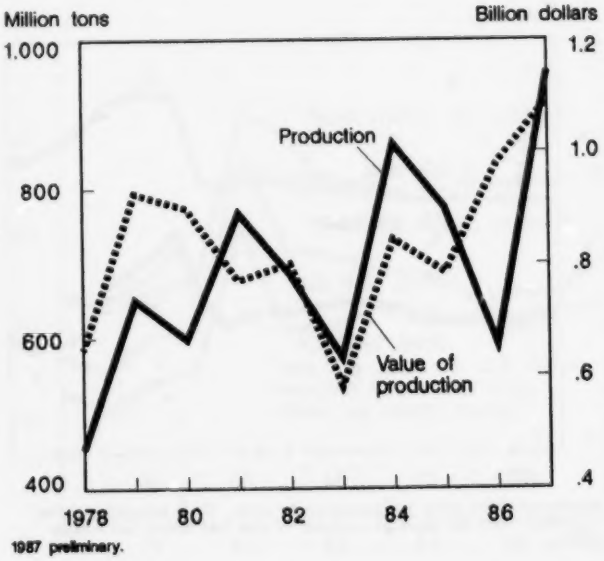
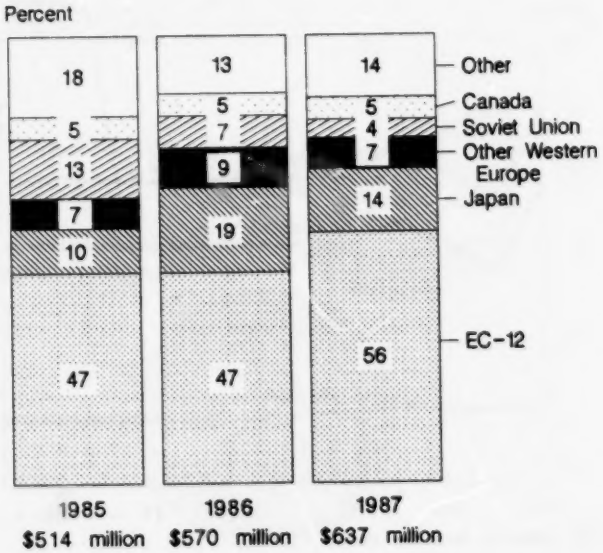


Chart 249
Tree nut production and value of production



1987 preliminary.

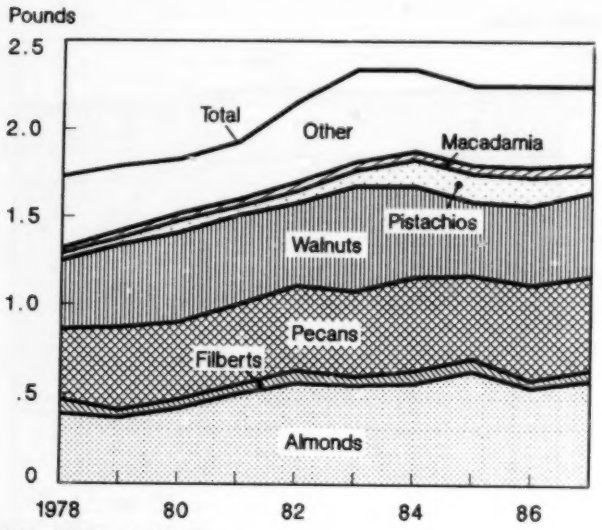
Chart 250
Destination of U.S. tree nut exports



Tree Nuts and Tropical Products

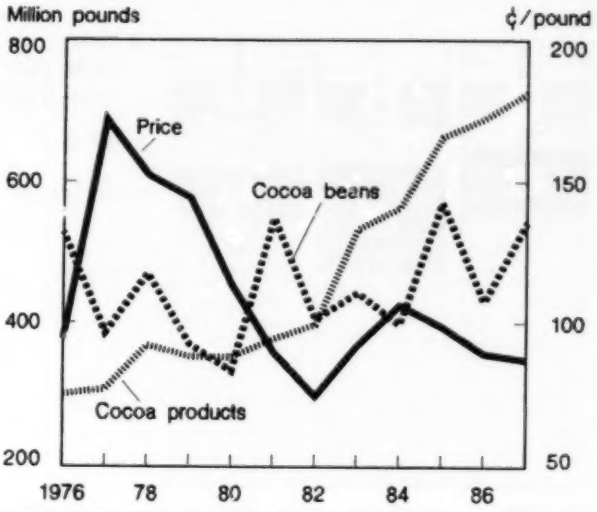
Per capita consumption of tree nuts was 2.25 pounds per person in 1987, unchanged from 1986. The 1988/89 world coffee crop was down nearly 10 percent from the previous year. World green coffee prices in 1988 averaged $1.12 per pound, up slightly from 1987's $1.09.

Chart 251
Per capita consumption of tree nuts



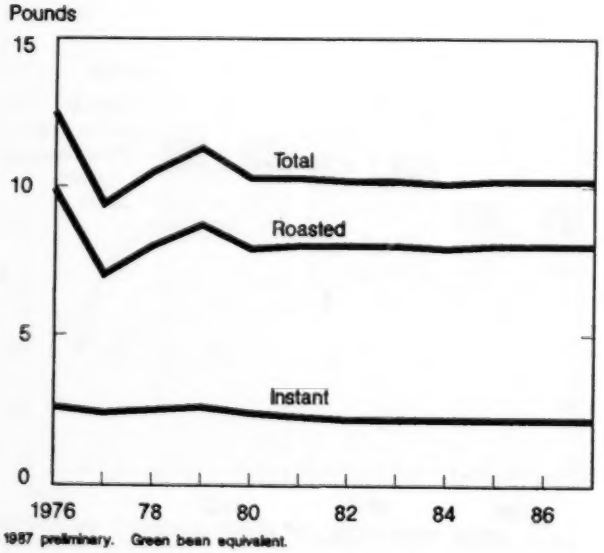
1987 preliminary. Shelled basis.

Chart 252
U.S. cocoa imports and prices



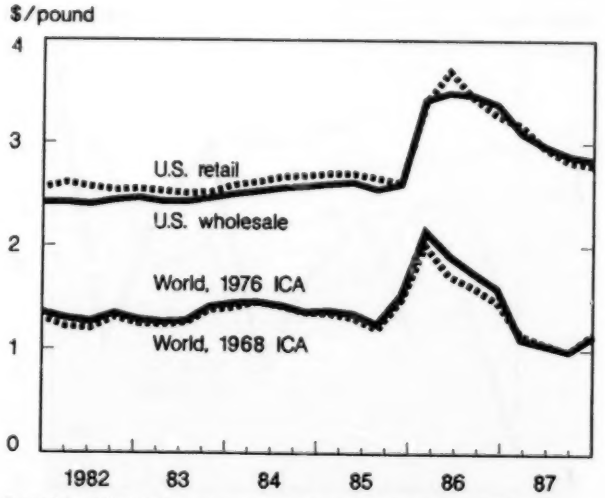
Price for cocoa beans is the average of nearest-three active futures trading months on the Coffee, Sugar, & Cocoa Exchange, Inc.

Chart 253
U.S. per capita consumption of coffee



1987 preliminary. Green bean equivalent.

Chart 254
World and U.S. coffee prices

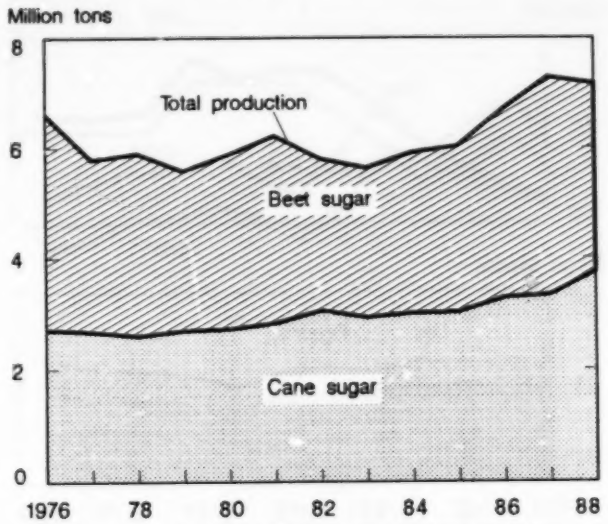


Roasted for United States and green bean for world. ICA is International Coffee Agreement. 1976 ICA based on composite of other mild Arabica and Robusta coffees.

Sugar

U.S. beet and cane sugar production declined by 8 percent in 1988/89, mainly due to drought-reduced beet crop production. U.S. sugar imports fell from 1.92 million tons in 1986 to 1.20 million tons in 1987. Total caloric sweetener consumption in 1988 was 16.4 million short tons.

Chart 255
U.S. beet and cane sugar production



Raw value. Crop year beginning September 1. Does not include Puerto Rico.

Chart 256
Sources of sugar used in the United States

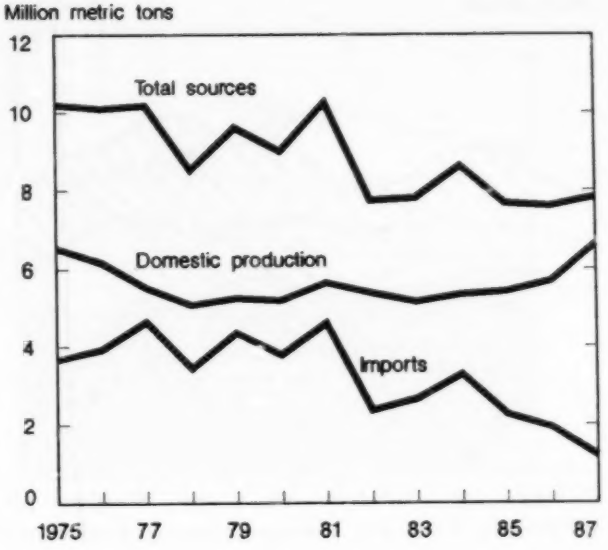


Chart 257
U.S. sugar prices

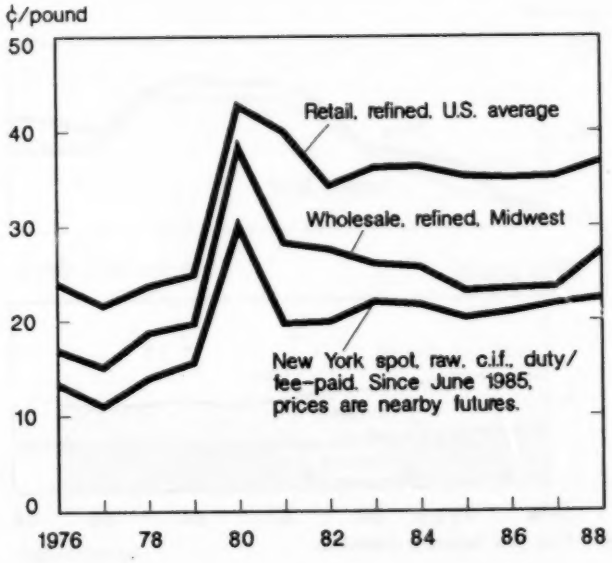
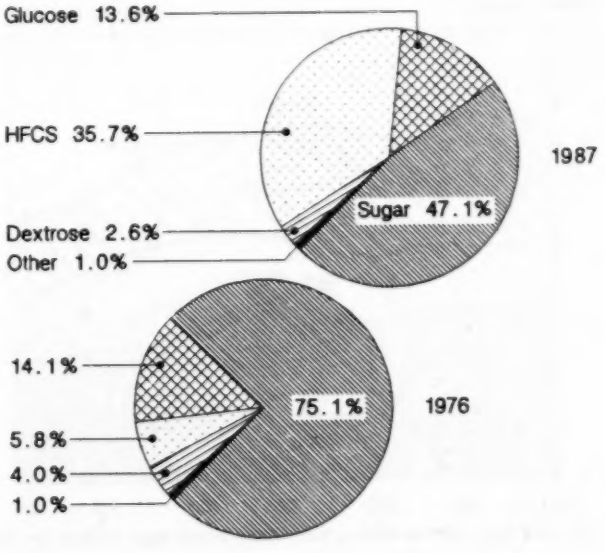


Chart 258
Per capita consumption of caloric sweeteners

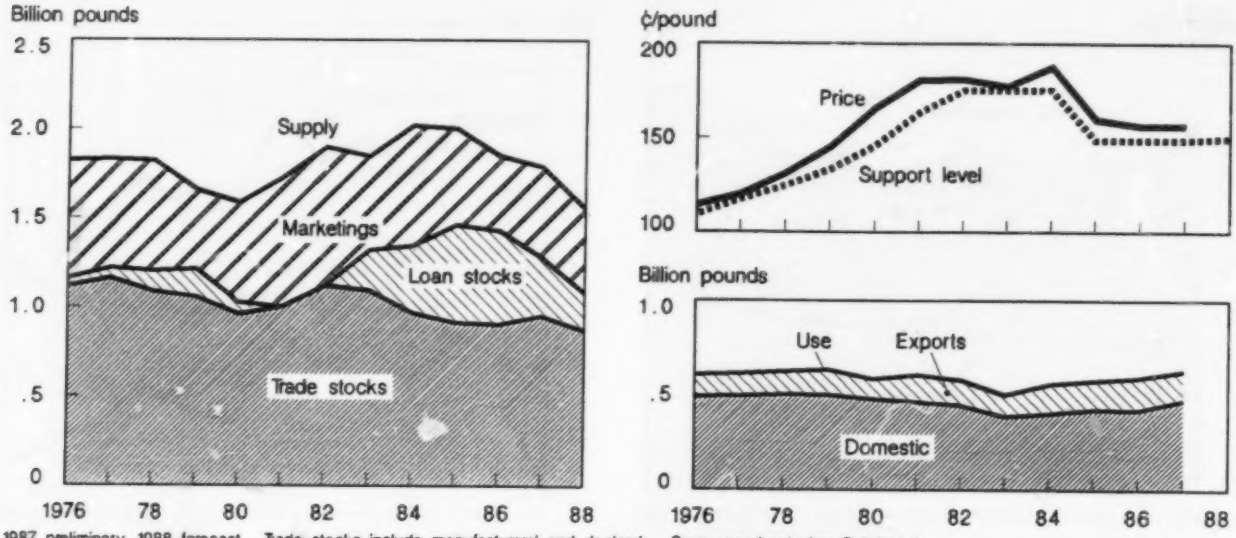


Tobacco

Total 1988 U.S. tobacco production, including burley, flue-cured, and all other kinds, was about 1.35 billion pounds, up 13 percent from the 1987 crop. Burley price supports averaged $1.50 per pound in 1988 and flue-cured supports averaged $1.442. Burley supports will increase to $1.532 in 1989 and flue-cured supports to $1.468 per pound.

Chart 259

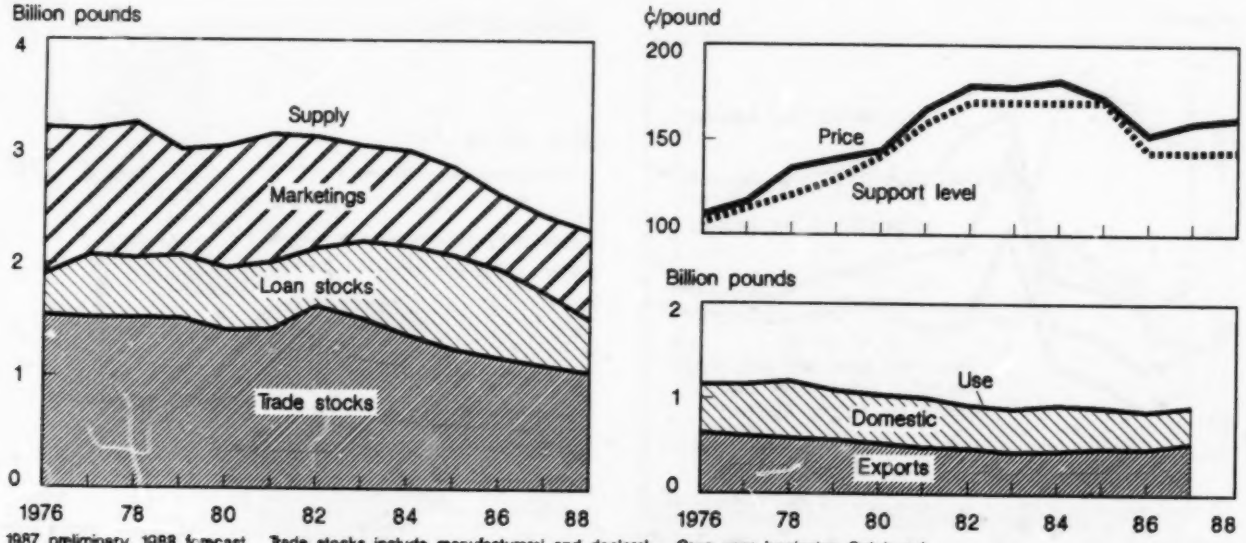
Burley tobacco: Supply, price, use



1987 preliminary, 1988 forecast. Trade stocks include manufacturers' and dealers'. Crop year beginning October 1.

Chart 260

Flue-cured tobacco: Supply, price, use

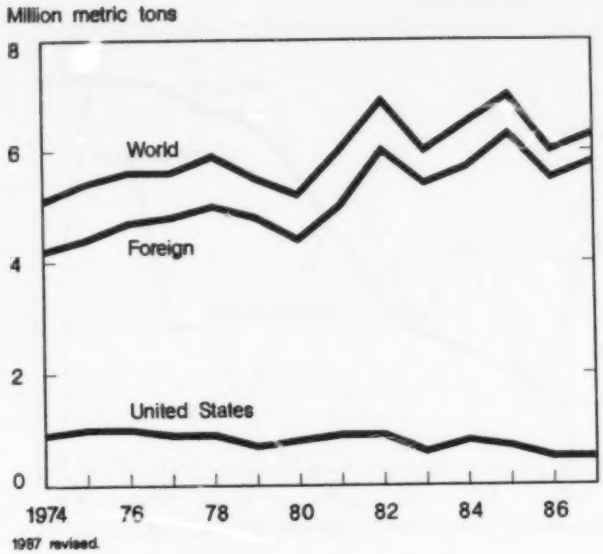


1987 preliminary, 1988 forecast. Trade stocks include manufacturers' and dealers'. Crop year beginning October 1.

Tobacco

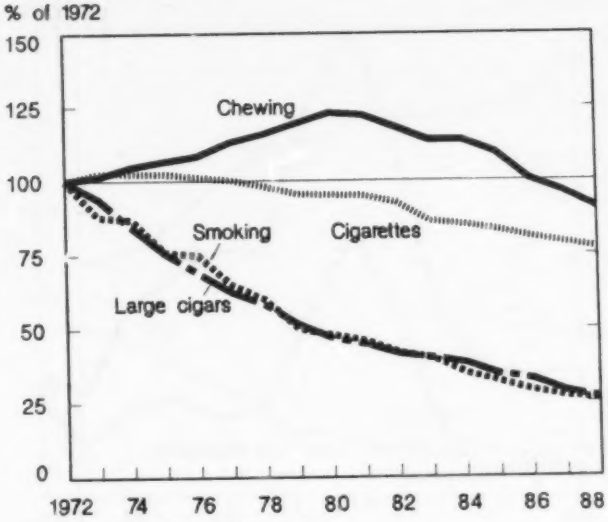
Total 1987 world tobacco production was estimated at 6.3 million tons, 4 percent above last year's harvest. Domestic use was stable during the 1970's, but both cigarette production and tobacco use fell during 1980-86 before rebounding the last 2 years. Cigarette production has risen the last 2 years because of a big boost in exports; domestic consumption continues to fall.

Chart 261
Unmanufactured tobacco production



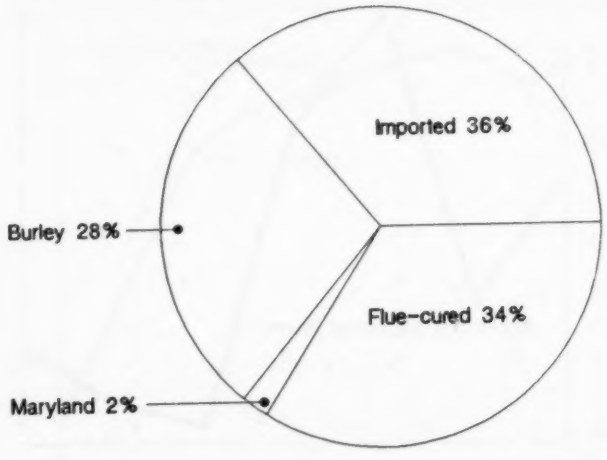
1987 revised.

Chart 262
Per capita consumption of tobacco products



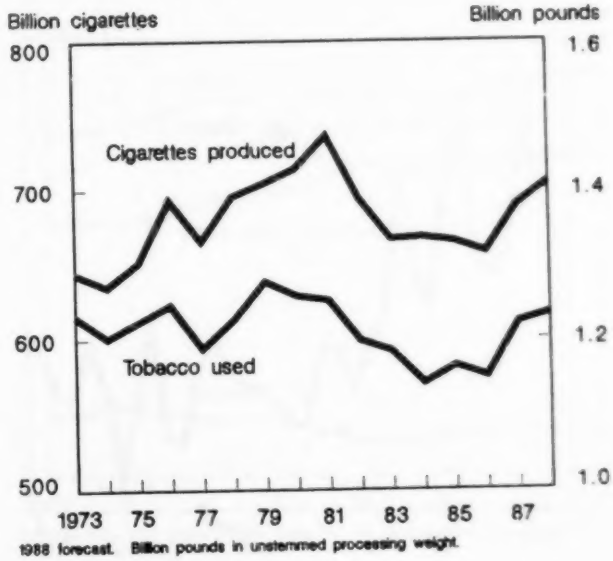
1988 preliminary. Persons 18 years and older.

Chart 263
Tobacco use in cigarettes



1985-87 average.

Chart 264
Cigarettes produced and tobacco used



1988 forecast. Billion pounds in unstemmed processing weight.

Transportation

Quickening of international grain trade caused ocean rates to turn up in 1987, despite continuing surplus shipping capacity. Rail rates have remained nearly level since 1984. Barge rates are volatile and greatly influenced by export demand.

Chart 265

Ocean freight rates from U.S. gulf

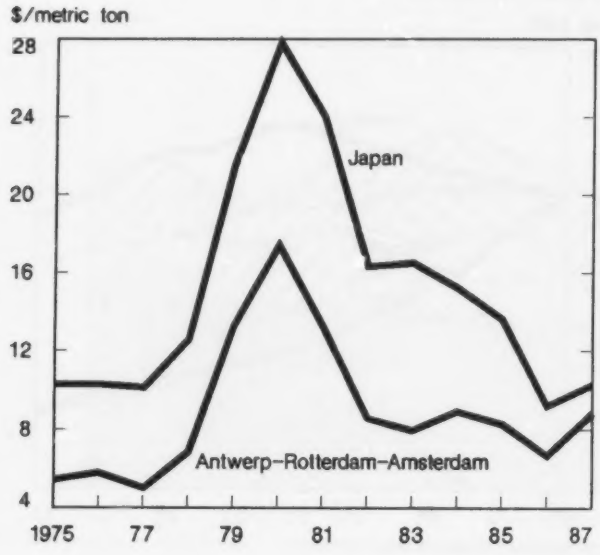
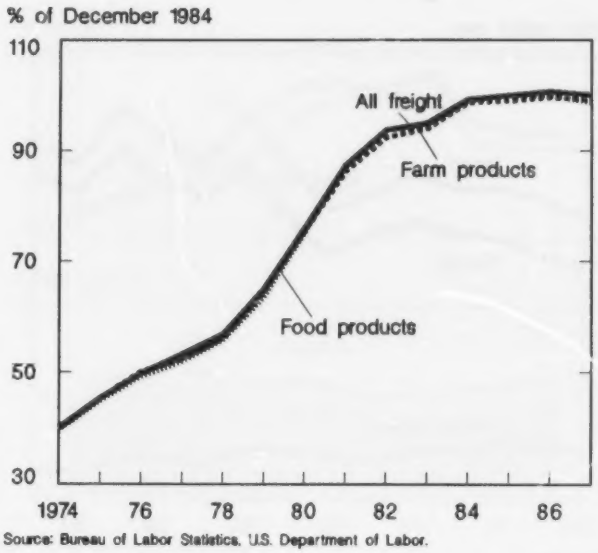


Chart 266

Rail freight rates for agricultural products



Source: Bureau of Labor Statistics, U.S. Department of Labor.

Chart 267

Spot barge rates for grain

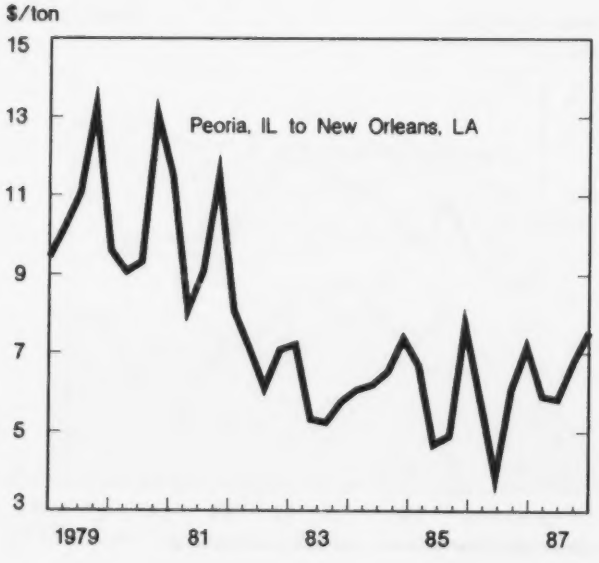
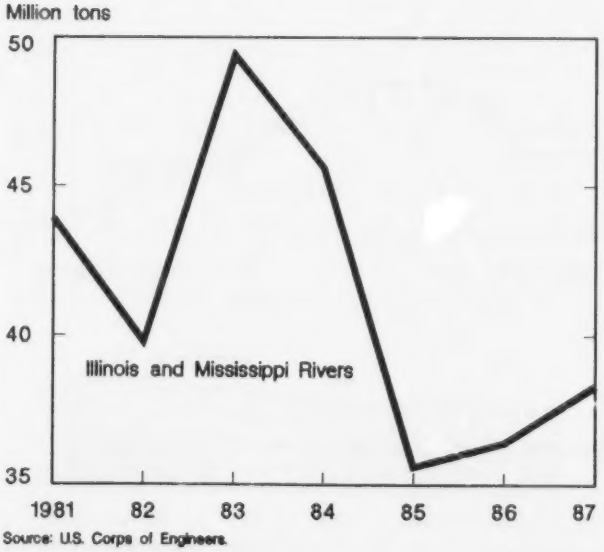


Chart 268

Barge shipments of grain

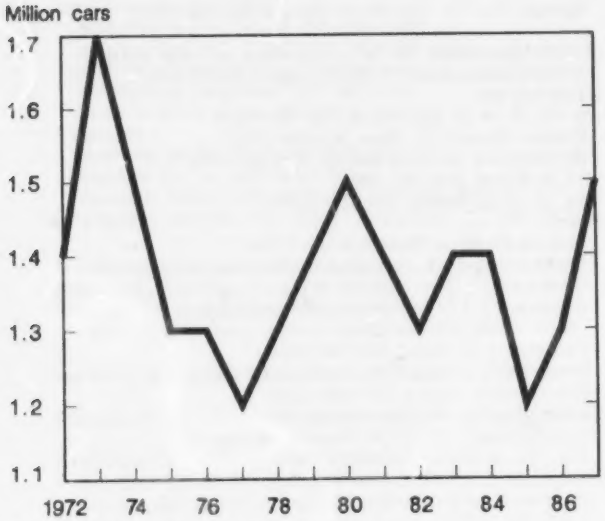


Source: U.S. Corps of Engineers.

Transportation

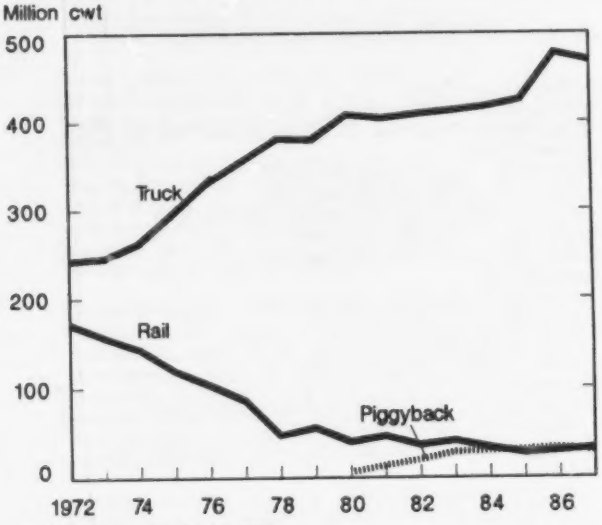
The 1986 and 1987 increases in rail loadings resulted chiefly from increased exports through Pacific Coast ports. Service quality allows trucks to dominate fresh produce distribution. Rising costs of fuel and other inputs caused truck costs to climb in 1987.

Chart 269
Carloads of grain shipped by rail



Source: Association of American Railroads.

Chart 270
Fresh fruits and vegetables shipped by truck, rail, and piggyback



Piggyback included in rail before 1980.

Chart 271
Costs of hauling fresh produce by truck

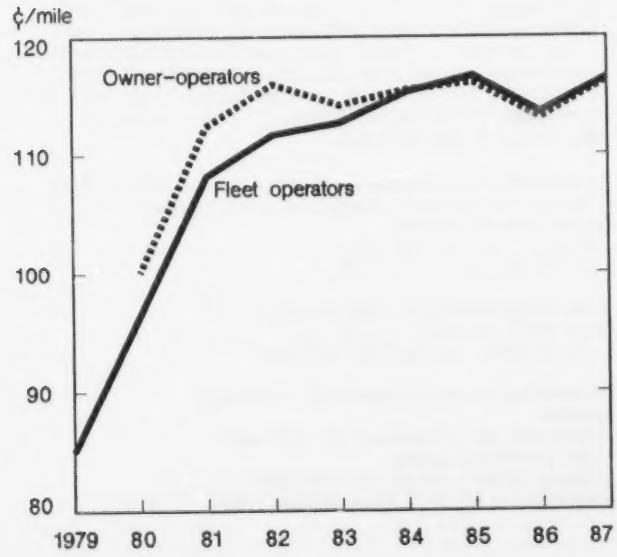
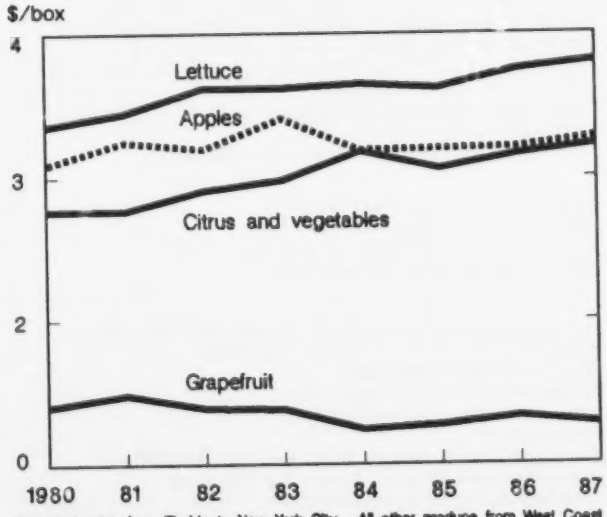


Chart 272
Truck rates for fresh produce



Grapefruit rates from Florida to New York City. All other produce from West Coast to New York City.

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